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- II RADIO EXTENSION COURSES BROADCAST FOR CREDIT.

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- III RADIO PROGRAMS INTENDED FOR CLASSROOM USE.
- IV AMERICA'S OUTSTANDING EDUCATIONAL RADIO PROGRAMS.

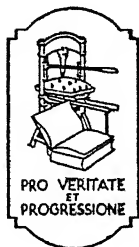
AMERICAN UNIVERSITIES AND COLLEGES THAT HAVE HELD BROADCAST LICENSE

By

CARROLL ATKINSON, Ph.D. (Peabody)

*Author of Education by Radio in American Schools,
Development of Radio Education Policies in
American Public School Systems, Radio Ex-
tension Courses Broadcast for Credit,
True Confessions of a Ph.D., etc.*

I



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A RADIO-EDUCATION BOOK DEDICATED TO :

the memory of the late

JOHN McLUCAS, Farmer and Sunday School Superintendent.

LOUISA BELLE McLUCAS, Wife and Mother.

the living radio work of

WALDO ABBOT, Director of Broadcasting, University of Michigan.

HAROLD ENGEL, Director of Public Relations, Station WHA, University of Wisconsin.

MAJOR GARLAND POWELL, Director, Station WRUF, University of Florida.

WALLACE KADDERLY, Chief, Radio Service, Office of Information, United States Department of Agriculture.

the living educational leadership of

DEAN BEN F. PITTINGER, School of Education, University of Texas.

DEAN FRANCIS F. POWERS, College of Education, University of Washington.

DEAN OSCAR C. SCHWIERING, College of Education, University of Wyoming.

DEAN FRANCIS T. SPAULDING, Graduate School of Education, Harvard University.

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—CARROLL ATKINSON.

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**AMERICAN UNIVERSITIES AND COLLEGES
THAT HAVE HELD BROADCAST LICENSE**

American Universities and Colleges That Have Held Broadcast License

STANDARD BROADCAST LICENSES

On August 1, 1941, there were 859 licensed standard broadcast stations (and, in addition, forty-four outstanding construction permits) under the jurisdiction of the Federal Communications Commission—with thirty-one of these being owned by thirty American institutions of higher learning as listed in the current *United States Office of Education Educational Directory, Part III, Colleges and Universities*. These thirty-one represented 3.6 per cent of all standard broadcast stations in operation in the United States on that date.¹

¹ Four stations listed as "educational" by the Federal Communications Commission are not included in this study: (1) Wisconsin State Department of Agriculture operates 5,000-watt WLBL (Stevens Point); (2) Buffalo, New York, Board of Education operates 50-watt WSVS; (3) Benson Polytechnic School, Portland, Oregon, operates 100-watt KBPS; and (4) Port Arthur College, Port Arthur, Texas, operates 500-watt KPAC, but the College is not listed in the *Educational Directory*. Dr. Atkinson's *Development of Radio Education Policies in American Public School Systems* (Edinboro, Pa.: Edinboro Educational Press, 1939) describes both the Buffalo, New York, and Portland, Oregon, stations as well as those of other public school systems that have attempted to operate broadcast stations. Perhaps this volume might have included five other institutions which temporarily held broadcast licenses: (1) Latter Day Saints University (Utah); (2) Lombard College (Illinois); (3) New Columbus College (South Dakota); (4) Oregon Institute of Technology; and (5) William Hood Dunwoody Industrial Institute (Minnesota). These, however, are either out of existence or have consolidated with other institutions and thus lost their individual identities.

There remain in active operation today only 25.2 per cent of the 123 broadcast stations licensed to 124 American universities and colleges, professional and technological schools, teachers colleges, and junior colleges since January 13, 1922—the date when the State Universities of Minnesota and Wisconsin received the first authorizations to broadcast officially issued to educational institutions. These may be classified as follows:

- 99 accredited universities and colleges that have held standard broadcast licenses—25 of which have stations in active operation in 1941.
- 3 institutions of higher learning which owned jointly one station which was sold during the past year after long litigation to determine the legal right of an educational institution to lease for profit the operation of its station.
- 1 college that owns and operates on a commercial basis two stations—in active operation in 1941.
- 5 professional or technological schools (independently controlled)—3 of which have stations in active operation in 1941.
- 12 teachers colleges (state controlled)—none of which have stations in active operation in 1941.
- 4 junior colleges (one now listed as a senior college)—none of which have stations in active operation in 1941.

One of the most extensive research projects in the field of radio education was completed in 1936 by Dr. S. E. Frost, Jr.² He was the third man on this work initiated in 1930 for the Committee of Research of the National Advisory Council on Education in Radio—completing the tracing and recording of all broadcast licenses that he classed as educational. His book is concerned primarily with the technical developments, touching somewhat on program policies. During the

² *Education's Own Stations* (Chicago: University of Chicago Press, 1937). Excerpts taken from this book are printed with the permission of the publishers.

fifteen-year period covered, 202 standard broadcast licenses were granted to 176 educational institutions of many types and varieties. These ranged from accredited universities and colleges through teachers colleges, junior colleges, technical schools, city school district, county school board, high schools, business colleges, trade schools, Bible schools, and even so-called educational organizations that had as their stated purpose the revolutionary reform of mankind. The author points out the significant fact that of the 164 educational institutions that lost broadcast licenses prior to 1936, 30.5 per cent held license less than one year, 51.8 per cent less than two years, with only 33.5 per cent of the licenses lost being held for more than three years.

So far as available records show, thirty of the 124 American institutions of higher education (that have been authorized to operate broadcast stations) were definitely active in radio work prior to the first World War—perhaps there were more because the present crop of administrators have assumed their positions of leadership since this date, and very few written records were kept of these pioneer communication endeavors. Three, possibly four, began wireless experimentation before the beginning of the twentieth century—Tulane University of Louisiana and Wittenberg College (Ohio) in 1896, University of Arkansas in 1897, and the University of Nebraska probably before 1900 but with the first public exhibition not being recorded until 1902.

In the popular mind KDKA (East Pittsburgh, Pennsylvania) generally is considered as having been the first American radio station on the air. Three of the American State Universities (Wisconsin, Minnesota, and North Dakota) have legitimate claims to this honor, but none of these made any noticeable fanfare

about their initial successes in transmitting voice and music. On the other hand, the broadcast of the Harding-Cox 1920 presidential election returns over the Westinghouse Electric and Manufacturing Company transmitter was publicized throughout the nation and caught the public's fancy.

As now deposited in the archives of the Federal Communications Commission, the early records of the United States Department of Commerce Radio Division admittedly are incomplete. Data are lacking that would prove which American station operated first on an experimental basis. Although KDKA was broadcasting under an experimental license dated October 27, 1920, which authorized use of telephone apparatus, this Westinghouse East Pittsburgh station was not the first transmitter to be licensed as a standard broadcast station. This honor belongs to another Westinghouse station, WBZ (Springfield, Massachusetts), which received on September 15, 1921, the first broadcast license issued by the Radio Division of the Department of Commerce. This, it should be noted, preceded the issuance of licenses to State Universities of Minnesota and Wisconsin just four months lacking two days (January 13, 1922).

Only one error as to date of original license was discovered in Doctor Frost's figures, namely, Denison University (Ohio) which is recorded officially as April 6, 1922, nearly thirteen months prior to the May 3, 1923, date as given in *Education's Own Stations*. He did infer a serious error, however, in his crediting the Latter Day Saints University (no longer in existence under that name) as having a valid claim to the honor of being the first educational institution to hold a broadcast license. Records of the Communications Commission definitely show that this institution was not licensed

until March 19, 1924, which (if this now non-existent university were included in the 124 in this study) would make it the ninety-second institution of higher education to receive a broadcast license and not the first. The Latter Day Saints University undoubtedly had an experimental license (as did others), but records show it much nearer the rear than the front of the procession chronologically of educational institutions to have received standard broadcast licenses from the Federal Government.

It should be clearly understood that Doctor Frost guarded with reservations his acceptance of the Latter Day Saints University claim as holder of the first standard broadcast license, nor would the matter be of especial significance if it were not for the fact that being first in a pioneer field is a matter of some justifiable pride, which in this case should be accorded jointly to the University of Minnesota and the University of Wisconsin. His statement follows:

Data in the files of the Latter Day Saints College, Salt Lake City, Utah, successor of the Latter Day Saints University, reveal that this university was granted a broadcast license by the Radio Division, United States Department of Commerce, sometime in 1921. Since corresponding data is not to be found in the files of this Division, now included in files of the Federal Communications Commission, the contention of the institution that this was the first broadcast license issued to an educational institution by the federal government rests solely upon the evidence of papers contained in its files and upon the memory of certain individuals connected with the university at that time. However, as there is no supportable evidence now available which challenges this contention this license and date must be accepted, until such evidence is produced, as the point of departure for any historical survey of the broadcast licenses that have been held by educational institutions.³

³ *Ibid.*, pp. 2-3.

Records on file with the Federal Communications Commission show that the 124 institutions of higher education included in this study received their initial standard broadcast licenses in the chronological order shown in Table 1. It should be noted that Alabama College and the University of Alabama are not included because they assumed part ownership of a station after it had been established by Alabama Polytechnic Institute which, by the way, was not the first but the second station that that College had been authorized to operate.

It is interesting to note that sixty (or nearly half) of the 124 educational institutions holding standard broadcast licenses received them during 1922, with only two being granted in the 1930 decade. Year-by-year figures show:

1922	60
1923	28
1924	17
1925	9
1926	3
1927	1
1928	2
1929	1
1930	0
1931	1
1932	0
1933	0
1934	0
1935	(*)1

(*) The above totals but 123 instead of 124 due to the fact that *Alabama College* and the *University of Alabama* did not hold original licenses but assumed joint ownership of the station licensed to Alabama Polytechnic Institute on February 25, 1929. It must be remembered that St. Norbert College owns and operates two radio stations.

TABLE 1

ACCREDITED INSTITUTIONS OF HIGHER EDUCATION THAT
HAVE HELD STANDARD BROADCAST LICENSES

No.	Name of Institution	Date of Initial License
1	*University of Minnesota	January 13, 1922
1	*University of Wisconsin	January 13, 1922
3	Union University (now Union College)	March 2, 1922
4	Northern State Teachers College (Michigan)	March 10, 1922
5	West Virginia University	March 16, 1922
6	Clark University	March 21, 1922
7	University of Texas	March 22, 1922
8	*St. Louis University	March 23, 1922
9	*University of Illinois	March 28, 1922
10	*Loyola University	March 31, 1922
11	New Mexico State College	April 5, 1922
11	*Purdue University	April 5, 1922
11	St. Joseph's College	April 5, 1922
14	Denison University	April 6, 1922
14	*Kansas State College	April 6, 1922
16	University of Missouri	April 13, 1922
17	Bradley Polytechnic Institute	April 21, 1922
18	Tulane University of Louisiana	April 24, 1922
19	James Millikin University	April 25, 1922
20	*Iowa State College	April 28, 1922
21	Marietta College	April 29, 1922
22	University of Nevada	May 1, 1922
23	*St. Lawrence University	May 4, 1922
23	University of California	May 4, 1922
25	Nebraska Wesleyan University	May 6, 1922
25	*St. Olaf College	May 6, 1922
27	Villanova College	May 8, 1922
28	*South Dakota State School of Mines	May 9, 1922
29	University of Vermont	May 13, 1922
30	Ward-Belmont School (Junior College)	May 15, 1922
31	*Cornell University	May 27, 1922
32	*Ohio State University ..	June 3, 1922

(*) Indicates stations operated by educational institutions today.

TABLE 1 (Continued)

ACCREDITED INSTITUTIONS OF HIGHER EDUCATION THAT
HAVE HELD STANDARD BROADCAST LICENSES

No.	Name of Institution	Date of Initial License
33	University of Nebraska	June 16, 1922
34	*State College of Washington	June 21, 1922
35	*State University of Iowa	June 26, 1922
36	Marquette University	June 30, 1922
36	University of Colorado	June 30, 1922
38	University of Rochester	July 5, 1922
39	University of Cincinnati	July 6, 1922
40	*Rensselaer Polytechnic Institute	July 18, 1922
41	Yankton College	August 8, 1922
42	*Michigan State College	August 18, 1922
43	Brenau College	August 31, 1922
43	North Carolina State College	August 31, 1922
45	Midland College	September 22, 1922
46	Alabama Polytechnic Institute	October 3, 1922
47	*Agricultural and Mechanical College of Texas	October 7, 1922
48	Wittenberg College	October 13, 1922
49	Mercer University	October 30, 1922
50	Pennsylvania State College	November 1, 1922
51	Billings Polytechnic Institute	November 7, 1922
52	Rice Institute	November 21, 1922
53	Kalamazoo College	November 24, 1922
54	*Grove City College	November 29, 1922
55	Southwest Missouri State Teachers College	December 2, 1922
56	*Oregon State Agricultural College (now Oregon State College now operated for the Oregon State System of Higher Education)	December 7, 1922
57	University of Arizona	December 9, 1922
58	North Dakota Agricultural College	December 14, 1922
59	Concordia College	December 15, 1922
60	Carthage College	December 29, 1922

(*) Indicates stations operated by educational institutions today.

TABLE 1 (Continued)

ACCREDITED INSTITUTIONS OF HIGHER EDUCATION THAT
HAVE HELD STANDARD BROADCAST LICENSES

<i>No.</i>	<i>Name of Institution</i>	<i>Date of Initial License</i>
61	Southeast Missouri State Teachers College	January 16, 1923
62	State Teachers College (Mayville, North Dakota)	January 19, 1923
63	Antioch College	January 27, 1923
64	*University of South Dakota	February 6, 1923
64	Western Union College	February 6, 1923
66	St. Martin's College (<i>then a Junior</i> College)	February 14, 1923
67	Catholic University of America	February 20, 1923
68	Clemson Agricultural College	February 24, 1923
69	Colorado State Normal School (<i>now</i> Western State College of Colorado)	March 8, 1923
70	*South Dakota State College	March 9, 1923
71	Graceland College (Junior College)	March 15, 1923
72	Milton College	March 20, 1923
73	Louisiana State University	April 20, 1923
74	Emmanuel Missionary College	April 23, 1923
75	Penn College (<i>now William Penn</i> College)	May 7, 1923
76	Augsburg Seminary (<i>now Augsburg</i> College and Seminary)	May 10, 1923
77	*University of Oklahoma	May 18, 1923
78	Connecticut Agricultural College (<i>now</i> University of Connecticut)	June 1, 1923
79	Colorado State Teachers College (<i>now</i> Colorado State College of Education)	June 4, 1923
80	*University of North Dakota	August 13, 1923
81	Iowa State Teachers College	September 13, 1923
82	Lake Forest College	October 10, 1923
83	University of New Mexico	October 30, 1923
84	Michigan College of Mines (<i>now</i> Michigan College of Mining and Technology)	December 1, 1923

(*) Indicates stations operated by educational institutions today.

TABLE 1 (Continued)

ACCREDITED INSTITUTIONS OF HIGHER EDUCATION THAT
HAVE HELD STANDARD BROADCAST LICENSES

<i>No.</i>	<i>Name of Institution</i>	<i>Date of Initial License</i>
85	University of Arkansas	December 4, 1923
86	Morningside College	December 13, 1923
87	College of Wooster	December 14, 1923
88	Carleton College	December 22, 1923
89	*Georgia School of Technology	January 7, 1924
90	University of Michigan	January 14, 1924
91	University of Mississippi	February 28, 1924
92	Leland Stanford, Jr., University	May 7, 1924
93	Rollins College	May 19, 1924
94	State Teachers College (Superior, Wisconsin)	May 23, 1924
95	Gettysburg College	May 30, 1924
96	Eureka College	July 23, 1924
97	St. John's University	September 20, 1924
98	Oklahoma College for Women	October 3, 1924
99	Beloit College	October 9, 1924
99	Louisiana College	October 9, 1924
101	Dartmouth College	October 18, 1924
102	Central Missouri State Teachers College	November 3, 1924
103	Furman University	December 2, 1924
104	Knox College	December 12, 1924
105	*University of Kansas	December 18, 1924
106	University of Utah	January 6, 1925
107	University of Idaho	January 28, 1925
108	Stout Institute (Teachers College)	February 2, 1925
109	University of Maine	February 9, 1925
110	University of Montana (<i>now</i> Montana State University)	February 26, 1925
111	University of Toledo	May 13, 1925
112	*St. Norbert College (first station)	May 28, 1925
113	Stephens College (Junior College)	October 16, 1925
114	Bucknell University	November 6, 1925

(*) Indicates stations operated by educational institutions today.

TABLE 1 (Continued)

ACCREDITED INSTITUTIONS OF HIGHER EDUCATION THAT
HAVE HELD STANDARD BROADCAST LICENSES

No.	Name of Institution	Date of Initial License
115	Wayne State Teachers College (now Nebraska State Teachers College)	August 24, 1926
116	Northeast Missouri State Teachers College	December 7, 1926
117	*Luther College ..	December 18, 1926
118	Rose Polytechnic Institute ..	April 21, 1927
119	*John Brown College (now John Brown University) ..	June 15, 1928
120	*University of Florida ..	October 6, 1928
121	Emory and Henry College ..	October 24, 1929
122	Oglethorpe University ..	April 21, 1931
123	*St. Norbert College (second station)	October 1, 1935

Student radio clubs were important factors in a few of the earlier developments of broadcasting interests. There may have been others whose history did not come to light in this study, but there have been at least nine institutions with strong somewhat permanent organizations known as "Radio Clubs." Listed in chronological order by their beginnings these have been: Clark University and Dartmouth College (1914), Union University (1915), Wittenberg College (1916), Graceland (Junior) College (1917), Yankton College (1920), Rice Institute and University of Vermont (1922), and Rose Polytechnic Institute (1933). Three of these in 1941 have been in continuous operation since their origins: Dartmouth College, Rice Institute, and Rose Polytechnic Institute.

It should also be noted that students were important

(*) Indicates stations operated by educational institutions today.

in the early radio developments of at least twenty-five of these 124 institutions, being primarily responsible for the securing of broadcast licenses in eight instances. This early interest in amateur communication has continued until the present time as is testified by the weekly radio series, "Ham Forum," that the University of Illinois has presented especially for amateurs. Rose Polytechnic Institute since 1933 has offered each year special four- and six-week courses in code instruction. These amateur broadcasting activities have been considerably curtailed by the national emergency measures of the second World War.

While any classification of origins—based upon data that depend somewhat subjectively upon memories of individuals and incomplete records—necessarily must be arbitrary, the following rough grouping of the initial personal and professional forces leading to the securing of broadcast licenses by the 124 institutions of higher education serves to present a picture of the variety of these initial interests:

Electrical Engineering Departments	33
Physics Departments	27
Administration	13
Faculty hobbies	8
Student hobbies	8
Extension Divisions	6
Outside business interests	4
Science Departments	4
Alumni interest and financial support	2
Education and Philosophy Department	1
Reserve Officers' Training Corps	1
United States Air Mail Service	1
Unknown because data are not specific	16

In a few cases both the Electrical Engineering and Physics Departments in the same institution began work

in radio communication entirely independent of each other but merged under one or the other when broadcast license was received. With some exceptions, the Electrical Engineering faculty usually took the initiative in larger institutions and the Physics faculty in the smaller ones.

The University of Nevada held license in name only—merely an accommodation to a government unit quartered on its campus. Practically the same thing may be said about the University of Missouri, except that the students and faculty members were more active in co-operation than was the case with Nevada. Stanford University held license but built no station as was the case with a few of the smaller institutions. Milton College (Wisconsin) and Northern State Teachers College (Michigan) both held temporary licenses for operation of a transmitter for two days only; Gettysburg College (Pennsylvania) held two temporary licenses of two days each for a total of four days of authorized time on the air. Equipment that was donated from outside the institution was a very important factor in thirteen cases; in fact, there probably would have been no license applied for in all but two of these thirteen had it not been for the donated equipment.

On the other side of the picture, the ninety-four institutions that have held broadcast licenses but are not operating stations today can be grouped in an equally rough approximation of reasons for not continuing the transmitter operation as follows:

Financial difficulties (equipment, operation, and maintenance)	40
Federal regulations irritated institution officials	14
Broadcasting on experimental basis only	8
Sale of equipment and wave-length for profit	8

Competition of commercial stations in program production	6
Lack of interest of faculty and students	6
Cooperation of commercial stations promised more radio service than did independent station operation	5
Businessmen cooperation withdrawn from project	2
Complaints of listening public as to interference caused by college transmitter with commercial programs. .	2
Administrative difficulties within institution	1
Lack of qualified personnel to renew operating license. .	1
Resignation of "key" faculty member to enter business. .	1

These rough approximations of the principal factors for opening and for closing of broadcast stations, at best, can indicate little but the general situations that had to be met by educational institutions attempting to develop radio as a tool of education. In practically all cases there was no one single factor that led to the establishment or abandonment of a broadcast license. In general it may be said that the tempo of broadcasting is much faster than that of teaching—situations have to be met at the moment and procrastination is fatal to success in radio work whereas it is easily covered in classroom procedures.

Another interesting, though minor, factor that contributed to the closing of three of these educational broadcasting stations was the complaints from citizens on account of interference with reception of commercial programs, namely, Kalamazoo College, Michigan College of Mines, and Yankton College. In the case of the last named, the transmitter was said also to have interfered with telephone connections and instructional service of the College itself. The Physics Department of the University of Texas objected strenuously to operation of the transmitter when it interfered with experimentation that was being carried on. Oregon State College, in an early questionnaire to determine

the value of its station, found that its services were highly valued except by a few who complained that the College signals ruined reception of commercial programs that just then were increasing greatly in popularity.

Six institutions, in making sale of equipment and wave-length to commercial interests, reserved definite time on the air as part of the sales agreement, namely: University of Arkansas, Rollins College, Mercer University, Oglethorpe University, Carthage College, and New Mexico State College. One other institution, Oklahoma College for Women, thought that it had time reserved but was disappointed when its former station was moved immediately outside of its area after final papers had been signed and filed. These reservations of definite time are in effect today in the cases of only three institutions: Carthage College, New Mexico State College, and Rollins College. The Rollins College time on the air, however, was curtailed when its former station became a unit of the Columbia Broadcasting System.

Three educational institutions—John Brown University, Georgia School of Technology, and Kansas State College—held initial licenses which were deleted. Each of these three at later dates secured new licenses which have been kept active until the present time by the usual procedure of applying for and receiving renewals according to law. This accounts for the changes in dates and relative positions of chronological priority in Table 2 (as compared with Table 1) that gives in date order of initial issuance of *present* license of the thirty-one stations under control of the thirty institutions of higher education (accredited by being listed in the *Educational Directory*) as of August 1, 1941.

These educationally owned stations range from

highly complex state-wide radio services to little more than intellectual playthings. They differ in power from 50,000 watts to 100 watts. They vary in time on the air from twenty-four hours a day to six hours a week. Principally because federal monies have been poured into educational buildings within recent years, a few of these thirty-one have been equipped with transmitters and studio facilities equal to many of the more prosperous commercial broadcasters. Unquestionably, as a group, these stations owned by educational institutions are stronger today than ever before, but truly it has been a case of the "survival of the fittest."

Of these thirty-one transmitters of educational institutions, thirteen have call letters intended to be representative of the name of the institution while KUOA of John Brown University dates back to the origin of the station by the University of Arkansas. Eight of these thirteen originally had been assigned different call letters, later requesting the change in order to have them representative of the institution. Ohio State University, for example, at first was assigned WEAO, and had to wait several years until the ship that originally had carried WOSU as its signals went out of existence. Thereupon the University applied for and secured WOSU as call letters for its broadcasting station.

Under widely varying legal machinery, it may be said that sixteen American states, through their public-supported educational institutions, hold ownership to broadcast stations. These are: Florida, Georgia, Illinois, Indiana, Iowa (2), Kansas (2), Michigan, Minnesota, New York, North Dakota, Ohio, Oklahoma, Oregon, South Dakota (3), Washington, and Wisconsin. South Dakota has three institutions of higher learning that operate radio stations, Iowa and Kansas two each, while the state of Wisconsin owns two

stations—one through its University and the other through its State Department of Agriculture. A bill of the 1939 Texas Legislature died in committee that, if it had been successful, would have provided for a high-powered broadcasting station modeled somewhat upon the Wisconsin state-wide radio plan that centers around the University of Wisconsin. Authority from the Communications Commission, of course, would have been necessary before any such proposed station could be established even after the enabling act and appropriation of the Legislature.

The religious motive has been a strong factor in establishing at least three of the stations in operation today—John Brown University, Luther College, and St. Olaf College. The same thing undoubtedly applies to the three Catholic institutions holding broadcast licenses—Loyola University, St. Norbert College (2), and St. Louis University. The three Catholic institutions and John Brown University now operate their stations on a commercial basis. In the daily schedule of the other two, both Lutheran in denomination, programs of a religious nature consume a large share of the time on the air.

There exists a great variety in the types of control of educational institutions owning radio stations. The University of Illinois and the State College of Washington are examples of where the broadcast station has attained the position of being a separate department. John Brown University, Loyola University, and St. Norbert College operate their stations commercially through corporations in which the institutions hold majority stock control. KOAC is still officially licensed to the Oregon State Agricultural College (*now* Oregon State College), but it is under the control of the Oregon State System of Higher Education. Before sale this

TABLE 2

ACCREDITED INSTITUTIONS OF HIGHER LEARNING OPERATING STANDARD BROADCAST STATIONS
(August, 1941)

No.	Name of Institution	Call Letters	Date of Present License	Power (in watts)	
				Daytime	Nighttime
1	University of Minnesota	WLB	January 13, 1922	5,000	—
1 2	University of Wisconsin	WHA	January 13, 1922	(shares $\frac{3}{4}$ daytime)	—
3	St. Louis University	WEW	March 23, 1922	5,000	—
4	University of Illinois	WILL	March 28, 1922	1,000	—
5	Loyola University of the South	WWL	March 31, 1922	5,000	—
6	Purdue University	WBAA	April 5, 1922	50,000	50,000
7	Iowa State College	WOI	April 28, 1922	1,000	500
8	St. Lawrence University	WCAD	May 4, 1922	5,000	—
9	St. Olaf College	WCAL	May 6, 1922	500	(specified hours only)
10	South Dakota State School of Mines	WCAT	May 9, 1922	5,000	—
11	Cornell University	WHCU	May 27, 1922	(shares $\frac{1}{2}$ daytime)	—
12	Ohio State University	WOSU	June 3, 1922	100	(specified hours only)
13	State College of Washington	KWSC	June 21, 1922	1,000	—
				1,000	1,000
				(shares time, WKEN)	—
				5,000	—
				(shares time, KTW)	—

14	State University of Iowa	WSUI	June 26, 1922	5,000	1,000
15	Rensselaer Polytechnic Institute	WHAZ	July 18, 1922	—	1,000
				(Monday p.m. only)	
16	Michigan State College	WKAR	August 18, 1922	5,000	—
17	Agricultural and Mechanical College of Texas	WTAW	October 7, 1922	1,000	—
18	Grove City College	WSAJ	November 29, 1922	(shares time, KTBC)	100 100
19	Oregon State System of Higher Education	KOAC	December 7, 1922	(specified hours only)	1,000 1,000
20	University of South Dakota	KUSD	February 6, 1923	CP—5,000 LS (*)	500 500
21	South Dakota State College	KFDY	March 9, 1923	(shares time, KFNE)	1,000 —
22	University of Oklahoma	WNAD	May 18, 1923	(specified hours only)	1,000 —
23	University of North Dakota	KFJM	August 13, 1923	1,000	500
24	Georgia School of Technology	WGST	October 23, 1924	5,000	1,000
25	University of Kansas	KFKU	December 18, 1924	5,000	1,000
				(shares time, WREN)	1,000 500
26	Kansas State College	KSAC	January 27, 1925	(shares time, WIBW)	250 250
27	St. Norbert College	WHBY	May 28, 1925	100	—
28	Luther College	KWLC	December 18, 1926	CP—250 daytime	(shares time, KGCA)
29	University of Florida	WRUF	October 6, 1928	5,000	5,000
30	St. Norbert College	WTAQ	October 1, 1935	5,000	5,000
31	John Brown University	KUOA	December 10, 1935	5,000	—

CP ——— construction permit issued.

year of the station owned jointly by three Alabama state-supported institutions, the three presidents formed a Board of Control for determination of policies.

Broadcasting policies also differ. University of Wisconsin has developed a town-meeting use of its broadcasting facilities, extensively featuring political speakers and problems; the University of Florida definitely prohibits the use of its station for political speeches. Ohio State University (through its Council of Fraternity Presidents) in the past has offered a three-hour dance music series; the University of Illinois limits its music definitely to classical and semi-classical offerings. Students working under the National Youth Administration and other governmental agencies are used extensively in the maintenance and operation of some of these radio stations as well as for announcing, script-writing, research work, and similar duties. John Brown University has made its broadcasting station one of its campus vocational departments in which students pay for the privilege of working under supervision as instruction complementary to the more formal learning processes.

ELIMINATION OF WEAKER STATIONS

Before commercial broadcasting promised the profits that it does today, it was a comparatively simple matter for an educational institution to secure a wave-length, practically forget its existence and allow the license to lapse, then at a later date fall victim to a second spell of enthusiasm and secure another license. Seventeen of the 124 institutions in this study did obtain a second license after the initial authorization had been deleted; this second license was allowed to lapse or was sold by all but three of these—Georgia School of Technology, John Brown University, and Kansas State College. Four of these seventeen not only allowed a first and second license to be deleted, but also secured a third. None of these four, however, are operating radio stations today.

Natural limitations on the supply of broadcasting channels always have existed. It is only in recent years when demand has become much greater than supply that an educational institution—should it wish to operate a broadcast station—has had to purchase its wave-length in the open market as did St. Norbert College in 1935 after making several unsuccessful efforts to have the Federal Communications Commission increase the authorized operating power of its initial station. Universities and colleges, like business interests, have the privilege of making direct application for a broadcast license, and can secure it if they are able to demonstrate that such operation will result in “public interest, convenience, and necessity.” It is getting more and more difficult, however, to secure such authorizations.

The First International Radiotelegraphic Conference was held in Berlin on August 4, 1903. The initial allocation of frequencies to services was made in Berlin in 1906 in the days when the only radio communication that had passed the purely experimental stage was in the maritime service. On April 28, 1899, the *S.S. R. F. Mathews* collided at sea with another ship, and had sent the first wireless call on record for assistance. Thirteen years later (April 14, 1912) the *S.S. Titanic* disaster proved dramatically the value of wireless at sea when 705 lives were saved. Thus it was natural that the first Federal Government regulations should be concerned with ship-to-shore communication.

The first official American recognition of the growing radio communication problem occurred on July 1, 1911, when the Department of Commerce and Labor (since 1913 the Department of Commerce has been separated from the Department of Labor) organized a Radio Division to enforce the Act of June 24, 1910, that required certain passenger ships to carry wireless equipment and operators. On August 13, 1912, Congress approved an Act which required the licensing of wireless operators (including amateurs) and transmitting stations. This piece of legislation formed the introduction of American universities and colleges to federal jurisdiction.

Of the 124 educational institutions included in this study, twenty-five operated experimental stations before the World War while eight have received licenses for this type of research-instructional work since that time. Eleven of them are recorded as having established these experimental stations before the Act of August 13, 1912. All twenty-five of these pre-World War experimental transmitters eventually resulted in the licensing of broadcasting stations after the Radio Divi-

sion of the Department of Commerce began to authorize equipment as such in 1921.

All of these experimental stations were shut down as a military measure near the close of the World War, but a few of the educational institutions soon were authorized to resume experimentations as aids to the war aims of the country. Nine cooperated. The University of Wisconsin continued its earlier experimental work, redirecting its efforts toward the military possibilities of communication with detailed records being kept. Tulane University had on its campus at that time the largest radio engineering school in the United States. Loyola University, also located in New Orleans, likewise conducted a training school for military men.

The Army Signal Corps used the equipment for training purposes on the campuses of New Mexico State College, Pennsylvania State College, and St. Louis University. The Army Intelligence Corps used equipment of the University of Arkansas, and the Division of Military Aeronautics that of Ohio State University. Most unusual of all these services were those of St. Joseph's College which was designated to cover the frequency band in search of possible spy stations. It also received the additional assignment of copying messages intercepted from transoceanic German transmitters. This work, however, was soon taken over by the Philadelphia Navy Yard so that the College experimental station was closed for the second time.

The Federal Government returned the stations under its control to the holders of experimental licenses on February 29, 1920. General public attention was first caught by the KDKA broadcasting of the Harding-Cox presidential election returns on November 2, 1920, which event received nation-wide publicity; and it was the means of spreading the idea like wildfire so that

within two years 564 stations were licensed with the only law applicable to any form of radio being the 1912 statute intended to promote ship-to-shore communication. The Secretary of Commerce administered the regulations set forth, but was not empowered to make new ones. There was always the question as to whether he had any power to regulate the rapidly expanding industry. A federal court in 1923 ruled that he could select the frequency to be used by a station; another federal court in 1926 held that he could not prescribe any regulations whatsoever.

Within six months the number of stations increased from 528 to 671. Those which were dissatisfied with their assignments took whatever frequencies or hours of operation they desired, even to the extent of ignoring a gentleman's agreement that had reserved certain frequencies for exclusive use of Canadian stations. Congress dilly-dallied until the chaos of the situation demanded at least a temporary remedy. The Radio Act of 1927 created the Federal Radio Commission as a temporary body for one year, after which the control of radio again was to be transferred to the Department of Commerce with the Commission then becoming an advisory body. It was soon evident that the Federal Radio Commission could not do the job of cleaning up the tangled frequencies within a year so its life was extended annually until 1929 when it was continued "until otherwise provided by law."

In that period of uncontrolled "mushroom growth" immediately preceding the Dill-White Radio Bill of February 23, 1926, creating the temporary Federal Radio Commission, the useable broadcast band had become crowded with stations operating without regulation, jumping each other's assigned frequencies, and giving a typical example of "rugged individualism gone

hog wild." The first problem naturally was to reduce the number of stations and to place those that remained in definite frequencies and on power that would minimize interference with each other.

The educational stations, generally speaking, were bound by pedagogical ideals; the commercials were profit-minded. The Federal Radio Commission's examiners undoubtedly—which is the conventional approach generally made by profit-seekers in a Democracy—were treated as royal kings by many of the business men who sought to maintain or improve their air facilities that each day gave greater promise of commercial value. On the other hand, some of the educational stations holding broadcast licenses either gave the impression of ethereal superiority or paid little attention to the examiners whose assigned duty it was to reduce so far as possible the grand total of existing broadcast stations. The result was inevitable—there was a high mortality rate among educational stations.

A few institutions fought against the encroachments of commercial interests and the apparent lack of sympathetic consideration by the Federal Radio Commission. Nebraska Wesleyan University was the best example of an educational institution battling courageously against what proved to be the inevitable loss of its station. University of Arkansas and Carleton College (Minnesota) were two among others that were shuttled off the air in the rough-and-tumble struggle for better frequencies and more power. Educators, apparently, were ill-equipped to meet the pragmatic tactics of business men seeking profit.

Commissioner Harold A. Lafount expressed the Federal Radio Commission's point-of-view before the Second Institute for Education by Radio in 1931 by stating:

The Act does not define the words, "public interest, convenience, and necessity," but it is clear that the standard so prescribed must be applied by the licensing authority to all applicants, regardless of the extent of their participation in the field of radio or of their objectives of operation. Such application involves a multitude of factors each of which has a varying importance; consequently, it is practically impossible to select any particular fact or factor to be applied as a universal criterion.

Although the Radio Act expressly denies the Commission any power of censorship over the radio communications or signals transmitted by any radio station, the Commission has considered that upon application for renewal of a station's license it is called upon under the mandate of the legislative standard prescribed by the Act to consider the character and quality of the service rendered by that station, and the Court of Appeals of the District of Columbia has sustained its practice in this respect, saying: "In considering an application for a renewal of the license an important consideration is the past conduct of the applicant for 'by their fruits ye shall know them.' " The Commission has, therefore, through the medium of short-term licenses, required many stations, on application for renewal of their licenses, to come before it and show that their continued operation would be to the public interest, convenience, and necessity. Those unable to make such a showing have been and will continue to be eliminated. The result of this procedure has been to suggest strongly to broadcasting stations generally the necessity for improving their programs. It has been the experience of many broadcasting stations that the Commission is quick to recognize educational programs as coming within the legislative standard, which, I may say, has directly led to the notable increase in the number of hours of educational programs undertaken by approximately every broadcasting station in the United States.

The Commission has tried to impart to licensees, and to applicants for licenses, a universal understanding that broadcasting stations are licensed to serve the public and not for the purpose of furthering the private or selfish interests of individuals or groups of individuals. The standard of public interest, convenience, and necessity means nothing if it does not mean this. And the test is the convenience, interest, and

necessity of the whole public as distinguished from that of the individual or any number of individuals or groups.⁴

Mr. Lafount's appearances at meetings of radio educators called forth the most acrimonious criticisms conceivable against both the Federal Radio Commission and the commissioner himself. As the student reviews the recorded comments of the time, he cannot help but admire the equanimity of a commissioner who could brave such criticism that merely his appearance would engender. Suffice it is to say that the Federal Radio Commission never attained a position of great respect in the public eye, and it was especially despised by many radio education leaders of its time. Before the Commission came to a legal end, moreover, the number of educational stations was greatly reduced. In this process of elimination there were certain sore spots which even in 1941 have not been healed in the minds of educators who felt themselves ruthlessly cheated of their broadcast licenses.

The Federal Radio Commission was abolished in 1934 by the Dill-Rayburn Communications Act which created a Federal Communications Commission of seven members (no more than four of whom may be of any one political party) to regulate all communications by telegraph, telephone, cable, or radio. Most of the provisions of the Dill-White Radio Act of 1926 dealing with broadcasting were incorporated into the new law. The new law expressly prohibits the Commission from censoring radio programs, with the result that it does not order particular programs or individuals either on or off the air. The Act, however, does specifically ban the broadcasting of information pertaining to lotteries,

⁴ "Contributions of the Federal Radio Commission," *Education on the Air* 1931 (Columbus, Ohio: Ohio State University, 1931), pp. 15-6.

and forbids the use of obscene, indecent, or profane language. It is specifically stated that broadcasting is not a "common carrier," which simply means that the stations themselves shall determine who is to appear or not appear over their facilities.

It must be remembered that the Federal Communications Commission is a "creature" of Congress and, as such, is subject to political pressure of sometimes none-too-scrupulous political figures. A recent example of this was the arms-embargo legislation in the fall of 1939 which both radio and newspapers tried to build up as the "fight of the century," but which proved to be a publicity "dud" because the President of the United States followed the advice of his counselors and remained quietly behind the scenes rather than make his typical open fight. The three major networks were deluged with requests for "free time" by senators and congressmen who wished to become "martyrs" to the cause. The broadcasting companies were between the "devil and the deep sea." The listening public was definitely apathetic to the issue, hence a monotonous line-up of speakers meant a definite loss in listening audience. On the other hand, these members of Congress (with their eyes then on the 1940 presidential campaign) were potential troublemakers in future legislation should they happen to be seriously offended by being turned down in their requests for free time on the air in which to expound their individual theories on the way to save Democracy.

A fair appraisal of the Federal Communications Commission in 1941 is that it has done a remarkable efficient piece of work considering its inheritance of backgrounds from the previous Department of Commerce Radio Division and the Federal Radio Commission as well as the American tradition of rugged

individualism that in the past has been so worked as to place practically all natural monopolies in the hands of private capital. Under pressure of certain New Deal reorganization, commercial broadcasters seem to have become more attentive to the "public interest" clause under which they operate, and there has been a noticeable increase in the amount of free time offered to educational institutions.

In fact, many far-seeing commercial station managements have made working agreements with well-known educational institutions in their areas whereby the latter agree to furnish programs on regular schedule. This has been done for two reasons: (1) Universities and colleges, as a rule, furnish creditable programs which are at least equal to the average commercial offerings—thus the broadcaster at little or no expenditure can form a good sustaining-program background for the income-producing commercial offerings; and (2) Such regularly scheduled programs furnish definite proof of time devoted to education and kindred services that must be reported to the Commission when application for renewal of license is made—these definite data also are useable when a station desires to apply for a change in frequency or greater power of operation.

From the very beginning of federal regulation, commercial broadcasters consistently and successfully have fought any form of legal control that would guarantee definite time allotments to educators. In 1932 the Committee on Education by Radio made arrangements with the late United States Senator Simeon D. Fess, of Ohio, to introduce a bill into Congress. The act, as proposed, read as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled that

. . . not less than 15 per cent, reckoned with due weight to all factors determining effective service, of the radio broadcasting facilities which are or may become subject to the control of an allocation by the Federal Radio Commission, shall be reserved for educational broadcasting exclusively and allocated, when and if applications are made therefore, to educational agencies of the federal or state governments and educational institutions chartered by the United States or by the respective states or territories.⁵

Behind this bill was the historical tradition of the Northwest Ordinance (1787) under which the Federal Government in granting statehood to territories has reserved definite percentages of the public domain for the future financing of public education. This particular proposed legislation for several years was a potential threat against commercial monopoly of broadcasting facilities. Also, it was a point of irritation in the minds of commercial broadcasters who had very little respect for the claims of educational services by pedagogs. The later (1938) discussion in Congress that the Federal Government take over a clear channel (thus eliminating some of the frequencies then held by privately owned stations) in order to broadcast "information" to South America so as to counteract the propaganda being disseminated there by European countries, especially Nazi Germany, met immediate opposition of commercial interests who freely offered their facilities gratis for this particular purpose.

The original underlying theory of the National Committee on Education by Radio was that commercial interests—by fair or foul methods, whichever one's point of view—were pushing educational institutions off the air. Therefore, in return for the loss of these wave-lengths (originally acquired before radio fre-

⁵ *Education by Radio* 1932, p. 53.

quencies had attained considerable commercial value), there should be made a definite allotment of time in which educational interests would be able to use radio as a medium for education in any way that educators might consider to be best. In 1941 only 3.6 per cent of the American broadcast stations are owned by institutions of higher learning. While many commercial stations are more than generous in offering their facilities to educational groups, the fact that radio by law is not a "common carrier" leaves the decision of how much and when facilities shall be available for educational purposes to the discretion of the commercial and not the school authorities.

There has been considerable disgruntled testimony from both public school and college authorities relative to the difficulties of getting time on the air. A "15 per cent" reservation of time for educational institutions undoubtedly would eliminate many of the greetings educators have received from commercial people as typified by: "We would like to give you time on the air, but all our time has been sold," or worse than such a blunt direct answer, just plain deceitful procrastination in the form of promises for future spots on the air which, when the time comes, are continuously postponed *ad infinitum*. On the other hand, the commercial people feel with a great deal of justice that they are paying the bills to maintain transmitter and studios, that they take all financial risks, and that it is un-American to tell anyone how to run his business.

The following accounts of some of the difficulties that educational institutions have had to maintain their broadcast licenses are typical of the struggle that has taken place. It should be noted that a good share of the difficulties are chargeable against the educators themselves—a failure to understand the dynamic forces

that must be brought into play in the successful operation of broadcast stations. On the other hand, they show the greed of money-mad business men who have seen in theoretically inclined pedagogical-minded holders of radio licenses legitimate victims in a typically American struggle for profits.

University of Arkansas was one of the four institutions reported as beginning experimentation in wireless communication prior to 1900. It operated its own station for a period of nine years, four months, and twenty-four days beginning December 4, 1923. Numerous shifts in frequency and power were made during this time. The license granted October 30, 1928, made it necessary to share time with KLRA (Little Rock). In the agreement of the exact hours of operation, the two stations carried on long and costly hearings before the Federal Radio Commission, and finally before the federal courts of Arkansas. A later Commission decision gave KLRA three-fourths of the time on the assigned frequency. As a consequence, the station finally was sold, with the provision being made that the University was to have thirty minutes free broadcasting time each day for a five-year period. However, no advantage was ever taken of this time proviso.

James Millikin University (Illinois) held license to operate its own station for a period of six years, four months, and four days beginning April 25, 1922. During this time no definite broadcasting policy was established. Program features included basketball games, use of local talent, and phonograph records. It was a disappointment to the University that the radio station *per se* was not effective in increasing the enrollment. As competition in program production from the larger commercial stations became more intense, monies for maintaining and servicing equipment became more difficult to secure. Therefore, when the Federal Radio Commission called the University authorities before it to justify the continued holding of a license, WBAO of the University was consolidated with WJBL (Decatur), a commercial station. Since this time the University has been given gratis practically all the time on the air that it has requested.

Kalamazoo College (Michigan) held license for one year, four months, and nineteen days beginning November 24, 1922. Programs of a general interest were broadcast mainly by students and professors in the College. These consisted of talks on various subjects and music. When commercial broadcasting began to develop rapidly, many townspeople complained that the campus transmitter was drowning out the reception of other more interesting programs. It came to be felt that the station was creating more ill will than good service. Financial difficulties in purchasing necessary new equipment were also partly responsible for the decision not to apply for renewal of license.

Carleton College (Minnesota) held license for a period of ten years, four months, and four days beginning December 22, 1923. Broadcasting during this time was distinctly of an educational nature, being principally addresses, music, and an accurate time service. The College shared time on the same channel with the University of Minnesota and St. Olaf College as well as with a Minneapolis commercial station. Splendid cooperation existed among the three educational stations, but relationships with commercial stations were not so agreeable. Constant shifting of the frequency brought the station into a place where its nighttime broadcasts were interfered with by a New Orleans station so as to make practically impossible any satisfactory operation after sundown. WRHM, the Minneapolis commercial station on the same channel, took legal steps to secure exclusive use of the frequency by elimination of the three educational stations. The result was long and expensive litigation for the three institutions to maintain themselves on the air. Eventually Carleton College became disgruntled, so the rights of the channel were turned over (without compensation) to the other two educational institutions.

St. John's University (Minnesota) held license for a period of five years, four months, and eleven days beginning September 20, 1924. Requirements of the Federal Radio Commission that the station be operated twelve months of the year worked a serious hardship inasmuch as program material was difficult to get except when the University was in session. With limited appropriations and without com-

mercial advertising, financing of the station became so difficult that no application for renewal of license was made in 1930.

University of Minnesota shares with the University of Wisconsin the distinction of being the first educational institutions to receive federal authorization to broadcast (January 13, 1922). In 1923 it received (first as a loan, later as a gift) a complete 500-watt transmitter from the Washburn-Crosby Company of Minneapolis. WLB (of the University) cooperated closely with WCCO (Minneapolis), operated at that time by the Civic and Commerce Association. This arrangement gave the University station the advantage of the studio and wire services of the larger 5,000-watt station. During this time, it is important to note, enough hours of broadcasting were sent out from the University transmitter to warrant continuance of a license.

It soon became evident that the University needed more and better time than it could get with the use of commercial facilities. The good evening hour which first was assigned for broadcasting informative programs was changed as advertising demands encroached upon it. Finally, the only available time was a practically useless late-evening period which had to be refused. There was an added difficulty of censorship by the commercial station which the University authorities resented. Consequently, the University went back to using WLB for all its broadcasting. There was a period of time under the Federal Radio Commission when the three Minnesota educational stations together were assigned only one-sixth of the time on a channel with five-sixths being granted to a commercial station. The latter, unwilling to share even one-sixth of its time, filed petition to remove the educational stations from the frequency. After three years of litigation (1936-39), WLB now shares time only with the St. Olaf College station on a new frequency at the ratio of two to one, thus more than quadrupling the time on the air of the University of Minnesota.

Nebraska Wesleyan University held license for a period of eleven years, two months, and twenty-six days beginning May 6, 1922. This University undoubtedly is the outstanding example of the determined fight of an educational institution to maintain its air rights against encroachments on the part

of commercial interests. Sixteen other stations jumped on its frequency when radio regulation broke down in the summer of 1926 after the courts had ruled that the Department of Commerce had no authority to assign specific frequency or power to a station. Under the jurisdiction of the Federal Radio Commission long expensive litigation ensued, with many orders to shift frequencies and denials of petitions for more power complicating the University's attempt to build a broadcasting service. These legal battles had cost Nebraska Wesleyan a great deal of time and money, so that in 1933 the station was sold to WOW (Omaha). The "insult added to injury" came immediately thereafter when the Radio Commission granted WOW the increase in power previously denied the University.

University of Nebraska held license for a period of four years, ten months, and fifteen days beginning June 16, 1922. Broadcasting was continued over its own station until September 15, 1925, when arrangements were made for programs over KFAB (Lincoln), a higher-powered station then owned by the Nebraska Buick Automobile Company. After this date WFAV (of the University) continued to broadcast music programs each Friday at midnight for about a year and a half when the transmitter was dismantled. Almost unlimited time was allowed the University over KFAB for a while, but on January 10, 1932, that station became affiliated with the Columbia Broadcasting System. This network affiliation soon made demands for time. Frequent changes in the University broadcasting schedule resulted. Some programs were temporarily suspended, and others postponed to a later time to permit network features the right of way.

This uncertainty prevented broadcasts intended for classroom use, those intended to supplement correspondence-study instruction, and farm services. Such a condition disturbed the University faculty members who had been contributing their services without compensation. Some half-hour periods were cut to five minutes. A change in ownership of the station brought further eliminations, and all afternoon programs were dropped with the reason being given that the material on the University broadcasts did not fit the policy of the station. A special radio committee was set up to consider the type of service and entertainment demanded.

On September 15, 1937, notice was received that the Columbia Broadcasting System had sold the time then occupied by the "Farmers' Half Hour," but that a period of ten minutes would be available at 1:15 p.m., or an early morning broadcast at 6:00 or 6:30 a.m. This proposed substitution was refused by the College of Agriculture faculty, and the program was suspended entirely. A five-minute period later was restored during the noon hour.

New Mexico State College held license for a period of fourteen years, two months, and five days beginning April 5, 1922—being operated under a lease agreement to business interests for three years, nine months, and eight days prior to final sale. After a deficit of \$50,000 had been built up against the College through its radio activities, the station was leased on September 12, 1932, to the Albuquerque Journal Publishing Company. After some difficulties in getting proper authorization from the Federal Radio Commission, the station was moved to Albuquerque. Unforeseen financial difficulties arose under this new arrangement. The College was requested to make the purchase of about \$9,000 worth of equipment so that the lessees might take advantage of the educational discounts. This money was never paid the College as promised, nor was the original amount of \$5,000 as agreed upon for equipment and rentals. In short, the College received nothing in this transaction except the return of the station with added indebtedness.

In 1935 the Governor announced that the Federal Communications Commission was about to cancel the license, inasmuch as Commission regulations prohibited the leasing of a radio station. Unless something were done and funds made available for the State to take over the station, its license would be cancelled inasmuch as the College was financially unable to operate it. The Governor called a meeting of the heads of all state institutions of higher learning and the various state departments. A committee of three was appointed to see what could be done to save the radio station for the state of New Mexico. The State Planning Board made certain funds available with which an outside expert was employed to study the situation, to advise on the cost to the State of operating the station, and further, to advise on availability of proper program material. Reports of both

the committee of three and the outside expert recommended that the State should attempt to operate the station.

The meeting was adjourned with the understanding that a member of the Attorney General's office would be in Washington at a later date to take up the matter with the Communications Commission. Several months elapsed during which the committee of three was marking time, awaiting the Commission's action. A surprise announcement was made that the station was purchased by the Albuquerque Journal Publishing Company. The records of the State Tax Commission show, however, that it is owned by the Albuquerque Broadcasting Company. Thus, the station ceased to be the property or to be under the jurisdiction of the State. It was not lost, as had been reported erroneously, because of failure of the Legislature to provide funds for its maintenance, since the entire proceedings occurred between the 1935 and 1937 sessions of that body. Under the sales agreement, New Mexico State College has retained certain specified time for educational broadcasts—a half-hour prior to and subsequent to 6:00 p.m. daily. This time has been devoted to both Agricultural Extension Service and other campus activities.

Oregon State Agricultural College (now officially known as Oregon State College) received its initial license on December 7, 1922. On July 1, 1932, KOAC was made a department of the General Extension Division of the Oregon State System of Higher Education which includes University of Oregon, Oregon State College, University of Oregon Medical School, and the three Oregon Colleges of Education. Various state departments, public agencies, and individuals also contribute frequently to the thirteen-hour daily-except-Sunday schedule of broadcasts.

Three times KOAC has had to fight to hold its frequency assignment. KFTI (Idaho Falls, Idaho) petitioned the Federal Radio Commission for KOAC's unused time, which, if successful, would have meant the beginning of a delimitation of the institution's broadcasting services. The application was denied on January 29, 1931, and the College was permitted to hold all the time on its frequency. The Legislature thereupon adopted a resolution providing for use of the station by state boards, commissions, officers, and others.

Even this did not fill all the time on the wave-length so that the Commission issued an order demanding that the station remain on the air twelve hours each day. Owing to the fact that the transmitter was being operated by an educational institution, attempts were made to get relief from this order. Being unsuccessful in this, KOAC was cited by the Commission for failure to meet requirements of its order, with the date of hearing being set for October 14, 1931. The College, however, adopted a twelve-hour broadcasting schedule, which move was satisfactory to the Commission and the hearing was cancelled. Thereupon funds were appropriated to insure such a schedule.

A second battle to hold unlimited time on its assigned frequency came in 1933 when the station was informed that its application for renewal of license was set for hearing on September 18 owing to application made by the Eastern Oregon Broadcasting Company of La Grange, Oregon, for a station at expense of facilities of KOAC. After preliminary hearing and taking of testimony, the Commission's examiner recommended that application of the commercial company be denied, which recommendation was adopted by the Commission. KOAC, however, was unsuccessful in its third struggle to prevent disturbance in its broadcasting set-up. Application was made in the winter of 1938 by KOY (Phoenix, Arizona) to change its frequency to that occupied by KOAC. The granting of this application was opposed, because it was believed that serious nighttime interference would result in impairing broadcasting services to the state of Oregon. The Communications Commission decided in favor of the Arizona broadcasting company.

Pennsylvania State College held license for a period of nine years, seven months, and twenty-one days beginning November 1, 1922. Pittsburgh alumni in 1921 donated \$1,000 for purchase of equipment with which to build the first crude transmitter owned by the College, but during the two academic years (1923-25) no funds were available so that very little organized broadcasting was done. Thereafter, various sums were made available for operating expenses and for purchase of new equipment. The College, however, was never able to make extensive investments for developing this work. The Federal Radio Commission be-

came more exacting in its requirements for station operation and finally, in spite of spirited protests, ordered deletion of the station. For most of the time in which license had been held, broadcasting had been carried on approximately two or three hours each week. It had consisted principally of farm talks and weather reports, auditorium and other serious lectures, Sunday morning chapel exercises, debates, book reviews, announcements of research work, athletic contests, musical numbers by campus organizations, and phonograph records.

University of Texas held three licenses covering a total period of five years, ten months, and twenty-five days between March 22, 1922, and February 19, 1929. The beginning was made in the fall of 1921 when a resident architect secured funds from the President of the University to establish an experimental station on the campus. Dr. S. E. Frost, Jr., describes the intra-department strife over the management of the station as follows:

"After the station had been in operation on this basis for approximately two years, the Physics Department at the University entered formal protest to the University authorities that its signals, being broadcast at all hours of the day and night, were interfering materially with experimental work on radio in the department. Consequently a request was made for relief and a conference of those interested was called by the president to consider the matter. The result of this was that the station was turned over to the Extension Division of the University to be used as an instrument for extension teaching. (Broadcasting license for station operation then was applied for and granted on March 22, 1922.)

"A stipulation of the agreement under which the Extension Division took over the station was that funds should be supplied to put the equipment in "first class condition" and an appropriation allowed for operation. However, no funds were supplied with the result that the station was of no value to the Division and no broadcasting could be done effectively. (Deletion of the first license then followed on March 26, 1924.)

"At about this time a representative of the state Marketing and Warehouse Division, whose duty, among other things, was to broadcast market reports furnished from Washington,

made an agreement with the University Extension Division to the effect that, for the use of the equipment one hour each day, he would replace burned-out tubes and otherwise keep the transmitter in condition. Further, the University was to be permitted to broadcast items of interest from the campus whenever advisable. (Under this agreement the University was granted a new license on November 10, 1924.)

"While this arrangement was in effect, items of interest were broadcast by the University from time to time and several series of lectures by members of the faculty were presented.

"Meantime the Physics Department recognized the value of the station for its uses and requested the Board of Regents of the University to turn over the equipment to its management. As no appropriation had been made for maintenance, and as the work that the station was doing was felt to be unsatisfactory, the license was allowed to expire June 10, 1925, and a new license was requested by the University which would eliminate the Texas market and warehouse departments and give complete control to the Physics Department."⁶

Under this new license all operating expenses of the station were to be borne from the maintenance and equipment fund in the Department of Physics. Educational and entertainment programs were broadcast during this period with some degree of regularity. Operating expenses of the station, however, became too much of a burden for a single University department; so the president appointed a committee on radio to study the matter. This group recommended the discontinuance of the station so it was dismantled with the equipment being absorbed into the Department of Physics to be used for experimental purposes. The license was transferred to the KUT Broadcasting Company, which established a commercial station. In 1939 this commercial transmitter was connected by remote control with the campus studios.

Texas occupies one-twelfth of the area of the United States proper, thus forming a problem as to how the University may reach the entire state. In the fall of 1939 a bill was introduced into the Legislature providing for the estab-

⁶ Frost, *op. cit.*, pp. 425-6.

lishment of a high-powered and effective station to be operated under the University Extension Division. The bill, however, was not reported out of committee.

Marquette University (Wisconsin) held license for a period of eleven years, ten months, and twenty-nine days beginning June 30, 1922. In 1925 the University entered into an agreement with the *Milwaukee Journal* for joint operation of the station as a commercial venture. The newspaper broadcast the sponsored income-producing programs; the University furnished the educational periods. The March 10, 1925, license was issued jointly in the names of Marquette University and the *Milwaukee Journal*. Commercial and educational interests, however, conflicted so that the University took over full operation of the station again on August 15, 1927.

Considerable difficulties and litigation followed after the University station was ordered by the Federal Radio Commission to share time with a commercial station on June 1, 1927. Involved were not only several commercial stations but also the two state-owned transmitters, WLBL (Stevens Point) and WHA (Madison). On May 5, 1934, the University asked the Radio Commission for permission to assign its license to the American Radio News Corporation which then was seeking to build a network of stations in Wisconsin. The University was to have educational periods equal to its assigned time. A commercial station protested this assignment but was overruled by the Commission, so that assignment of license and sale of station were effected.

University of Wisconsin shares with the University of Minnesota the distinction of being the first among the educational institutions to receive a standard broadcast license (January 13, 1922). The effort was made at one time to consolidate the two state-owned stations (one operated by the University and the other by the State Department of Agriculture) into one higher-powered station, to be located near the geographical center of the state so, it was hoped, that the educational broadcasting program might be carried on more effectively. On June 26, 1930, the Federal Radio Commission filed an order denying this application. A year

later a final order of denial was made. The case was carried to the Supreme Court of the District of Columbia.

The following interesting paragraph appears as part of the Commission's refutation to an argument advanced by the applicants in filing exception to the examiner's report:

"While the Commission consistently has been of the opinion that the devotion of radio facilities to work in education is important in a consideration of public interest, nevertheless it has never held that a state has a fundamental right to the use of radio in connection with its educational system. Radio is not essential to the dissemination of education."⁷

In 1931 a group of eleven commercial broadcast stations proposed that the State Department of Agriculture and Markets at Stevens Point and the University of Wisconsin at Madison abandon their radio stations and allow this group to donate free time for broadcasting educational and informational material originating from both Department and University. This commercial group requested the State to pay the cost of connecting the stations with Madison and Stevens Point by means of telephone lines. A conservative estimate placed this cost at about \$100,000 a year. Previously, none of these stations involved had ever been interested enough to broadcast the educational offerings of the state-owned stations.

Partly as a result of this agitation, the funds for the continued operation of WHA were not provided for in the general University appropriation of the 1932 Wisconsin Legislature. Therefore, a real problem of finances arose when operating funds were exhausted about February 1, 1932. The University Board of Regents, however, set enough money aside to finance operation for two additional months during which time it was hoped a plan of finance could be worked out. One was devised to save the situation. It consisted of getting support from the State Administration by going first to several state departments and commissions which were in a position to use radio facilities for extending their services and for informing citizens in the state of their particular work.

The State Highway Commission offered to give a substantial amount toward the operation of the station. The

⁷ Federal Radio Commission, *Docket Number 984*.

State Board of Health also made a contribution. With that much of a start the State of Wisconsin Emergency Board, a group of lay advisors to the Governor, became interested and said, "If these various state departments will make contributions to the radio station, we will take that into account when making cuts in their respective budgets." The members went further and said, in effect, that in their judgment the University radio station was one of the things which could not be restricted or abandoned at this time, and their support would be forthcoming.

In 1933 a series of events again jeopardized the existence of the state-owned stations. During the week when the bill for the appropriation of funds for WHA was to come before the Legislature, there appeared in the headlines of Milwaukee and Madison newspapers announcements of plans for two commercial stations to take over the educational work of the state-owned stations. This proposal of commercial stations to save the state money by taking over all its radio work, and the further bold announcement of the intent to take over certain Chicago channels and launch a program of public service without cost to the taxpayers, served to block the introduction of the bill for appropriations in the Legislature. The result was that there was no legislative appropriation. It was necessary to go again before the State of Wisconsin Emergency Board, and for seven weeks the state-owned stations were entirely without funds.

These two commercial stations, WTMJ (Milwaukee) and WIBA (Madison), made application to the Federal Radio Commission for greater facilities for themselves, proposing that both state-owned stations be thrown off the air. Hearing of these applications was scheduled for January 8, 1934. Twenty-one stations were drawn into the negotiations, or expected to be. Support was rallied from many sources. The Wisconsin Press Association gave fine cooperation, and information sent to weekly newspapers was widely used. Listeners, educators, parent-teacher groups, state officials, and many others came forward with strong support for the state stations and vigorous protests against the action of the commercials. The Wisconsin Attorney General took a positive stand, defending the state stations on the basis that air rights constitute part of the public domain, and stating that it was an outrage for private enterprise to attempt to take from the

state its own public property. The matter never came before the Federal Radio Commission for a hearing. Several conversations among representatives of the stations late in December, 1934, resulted in the withdrawal of all applications.

Strange as it seems, the next move in this dramatic and interesting struggle between state-owned WHA and the commercials was a step initiated by the University of Wisconsin to take over the channel (with 50,000 watts in power of operation) of WMAQ (Chicago), a NBC key Red Network outlet—a station that had been a pioneer in promotion of radio education experiments under the leadership of Miss Judith C. Waller, now the Educational Director of the NBC Central Division. After more than a year of negotiating, Wisconsin was obliged to withdraw its application to the Federal Communications Commission for the right to operate a full-time, high-powered radio station for enlargement of its broadcasting services. The Commission on October 27, 1939, granted the petition of the State for the dismissal of the pending application, after the Legislature failed to provide the funds necessary to make the desired improvements.

At the hearing of the bill before the Joint Finance and Education Committees an impressive array of proponents appeared favoring the bill. Not one person came to oppose it. The merits of the plan were considered, and the Education Committee recommended that it should be passed. The Finance Committee, facing a staggering deficit between receipts and expenditures, recommended indefinite postponement of the measure. In the Assembly the bill passed by the overwhelming vote of 63 to 8. It was then sent to the Senate for concurrence. There it never came up for passage, but died without a vote after being "placed on the table" and kept there during the closing days of the prolonged session. When the *sine die* adjournment came, this bill (along with many others) automatically expired. There was, of course, no feasible alternative other than to ask immediately for dismissal of the application pending before the Communications Commission. This petition was filed by the Wisconsin Attorney General. The Commission promptly granted the request.

COMMERCIAL OPERATION

The following recommendation was made in a recent doctoral dissertation:

*Purchase of broadcasting stations for operation on a commercial or semi-commercial basis is recommended to institutions of higher learning having funds to invest whenever suitable facilities are available. The movement among institutions that operate their own stations toward selling of time in competition with commercial interests is commended as being one in the direction toward self-support and as another practical means of furnishing employment to needy students.*⁸

In 1941 nine (or 30.0 per cent) of the thirty institutions of higher learning owning broadcast stations have been operating these on a commercial or semi-commercial basis. Considering that St. Norbert College operates two commercial stations, ten (or 32.3 per cent) of the thirty-one educationally owned transmitters are commercial or semi-commercial. These vary considerably in the degree of importance that has been placed upon the sale of time, ranging from complete commercialism with little pretense of being an "educational" station to where small blocs of time are sold in order to help maintain a transmitter that is intended primarily for educational service.

A brief survey of the experiences and present practices of these nine (given in the chronological order in which *present* license was received) shows the following:

⁸ Carroll Atkinson, *Education by Radio in American Schools* (Nashville: George Peabody College for Teachers, 1938), p. 122.

St. Louis University, establishing one of the pioneer stations in America, went through a complete reorganization process in 1937. Broadcasting facilities and personnel were enlarged to accommodate commercial programs. A large number of educational series originating on the campus have been continued despite the change of status to a commercial station. WEW is handicapped in the commercial field in a highly competitive area by its limitation to daytime hours only.

Loyola University of the South today is licensed for day-and night-time operation with 50,000 watts of power—the maximum allowed under present regulations. It is the New Orleans unit of the Columbia Broadcasting System, and one of the most powerful stations in America. Facilities are owned by the University, but operation is on a commercial basis in competition with other stations in its area. WWL went through many difficult struggles to secure its present power. Success, University officials state, was gained by frank recognition quite early in the station's development of the income-producing possibilities of broadcasting.

Cornell University in 1932 adopted a unique method of solving the dual problem of broadcasting the number of hours required by its license as well as the financing of the station operation. After using all the time the University needed for its educational purposes (principally service to agricultural interests), the balance of time authorized was sold in a block to an outside company for its commercial use. This arrangement for the sale of time by the University to the *Elmira Star-Gazette* continued for about seven years (1933-40). On June 3, 1940, cancellation was made of all contractual relations with the newspaper, and the studios of the station were moved back to Ithaca. A staff of professional radio people was employed, and the University began selling its time directly to business interests, with the sale of about 20 per cent of the station's time providing sufficient funds for its operation of an educational service. Operation ceases at sunset New Orleans time as Cornell is required to clear the channel for a New Orleans 50,000-watt station at that time, hence commercial activities are limited to daytime operation only.

Rensselaer Polytechnic Institute uses its equipment primarily for instructional purposes, and broadcasts but one evening each week. As a means of meeting operating expenses, about an hour of commercial broadcasting is carried each Monday evening. Most of these operating costs, however, are cared for as a budgetary item.

University of North Dakota, licensed in 1923, operated its transmitter purely as an educational project for about six years. In 1929 the present policy was begun of renting broadcasting time to a commercial group as a means of meeting the costs of maintenance and operation. Student managers, responsible to the Dean of the School of Education, handle the educational program series that originate in the campus studios.

Georgia School of Technology held its initial license for less than six months. The second license in 1924 was used to maintain an educational station for about six years. In 1930 the institution employed a group of commercial operators as its broadcasting agents, retaining nominal supervision over the station and its programs. WGST is the Atlanta unit of the Columbia Broadcasting System. The State Radio Commission was created by the Georgia Legislature in 1937 and, for a time, it appeared as though the status of WGST might be changed to that of being the agency of a state-wide educational broadcasting program. No such development has occurred as yet, however. A change in governors has noticeably affected this situation.

St. Norbert College, owner and operator of two commercial stations through WHBY, Inc., has had for its purpose from the beginning the development of an income-producing business along the same principles as the traditional investments in real estate properties so common to universities and colleges. When the Federal Communications Commission failed to authorize several requests for an allocation of higher power for its original station, the College went into the market and purchased a higher-powered station which was for sale at that time. This latter station is a unit of the Columbia Broadcasting System.

University of Florida early began the sale of a limited amount of commercial time, using part of the money raised for scholarship funds of the institution. In 1939 the Governor failed to approve the appropriations of the Florida Legislature for operation of the broadcast station and, as a result, WRUF must now depend almost entirely upon income raised from advertising accounts for its maintenance and operating costs—thus making it completely a commercialized business with a strong educational program background.

John Brown University first attempted to operate a station in partnership with a private party but this did not prove to be satisfactory. After its initial equipment was sold, time was purchased at commercial rates from a larger station. In the meantime the University of Arkansas first leased, then sold its station. John Brown University gained a majority stockholder control over this KUOA, Inc., in 1935, and has operated the transmitter on its own campus as a commercial venture since November, 1936. Rather strict regulations are made upon the type of commercial programs carried.

As against these nine institutions that operate broadcast stations commercially and semi-commercially with varying degrees of success, there have been eight others of the 124 in this study that have attempted to finance operation of standard broadcast stations by the sale of commercial time. Since licenses for all eight of these educationally owned stations have been lapsed or sold, it may be assumed that for this small group at least, commercial operation was no panacea for the financial troubles that have besieged the majority of educational institutions attempting to operate their own transmitters. A brief survey of pertinent experiences of these eight (presented according to chronological order in which *initial* license was received) shows the following:

New Mexico State College, in its earlier broadcasting history, was one of the highest-powered and most active stations

in America. Troubled with life-and-death financial problems, the effort was begun in 1930 to raise the necessary funds to maintain itself by establishing a remote control studio in El Paso, Texas, for broadcasting of commercial programs in cooperation with a newspaper there. The amount of income from this advertising, however, was disappointingly small so the studio was closed. Commercial programs continued for a period of time, being originated from the campus. Eventually the station was lost because of an accumulation of indebtedness which efforts to commercialize (either through direct sale of time or through lease agreement) could not overcome. The station was poorly located to secure much profitable commercial business.

Marquette University began operation as an educational station, but in 1925 entered into agreement with a newspaper whereby the latter sponsored commercial programs while the University presented educational offerings. An elaborate remote control network was established in Milwaukee. This included among other places the stadium, churches, dance halls, restaurants, and theaters. This arrangement lasted a little more than two years, but it did not prove to be satisfactory. The station then was operated on a purely educational basis until litigations with other broadcast stations made it necessary for the University to accept on its own account some commercial business. However, these commercial programs took but 10 per cent of the station's time, the remainder being used for educational purposes. This naturally was not profitable so the station finally was sold to business interests.

Alabama Polytechnic Institute operated its initial station for nearly three years, allowed license to lapse, then received authorization for a station to be operated in Birmingham. In 1929 the *University of Alabama* and *Alabama College* became joint owners of WAPI. For a while the city of Birmingham helped support the station, but depressed financial conditions of the City Government forced withdrawal of this support. In 1932 the station was leased by the three institutions for a five-year period to the WAPI Broadcasting Corporation. In 1939 application was filed with the Federal Communications Commission for assignment of the station to a new corpora-

tion to be known as the Voice of Alabama, Inc. This was denied by the Commission. Both the Voice of Alabama, Inc., (Columbia Broadcasting System being a 45 per cent stockholder in the corporation) and the three institutions—acting as the Board of Control of the station—appealed to the United States Court of Appeals for the District of Columbia. The Commission asked the Court to dismiss this appeal. An important factor in this litigation has been settlement of the point as to whether an educational institution may secure a broadcast license, then instead of operating the station itself, merely lease it to commercial interests for profits therefrom. Decision went against the three Alabama educational institutions, so outright sale of WAPI was made to the Voice of Alabama, Inc.

Wittenberg College, one of the two American institutions that began radio experimentation in 1896, was authorized to operate a broadcasting station in 1922, and by 1924 had received a Class A, Limited Commercial Station license. Later the College began transmission of commercial programs on a daily and weekly basis, maintaining a sixteen-hour-a-day schedule for a period of time. The necessity of buying new equipment and the fact that the commercial field was becoming highly competitive led to the decision to sell at a profit although the station had maintained itself creditably well as an educational-commercial adventure.

North Dakota Agricultural College operated its station for about three years as an educational venture. During the last two years of the life of the license, the station tried to maintain itself by sale of commercial time. It was found to be less expensive, however, for the College to purchase time for its agricultural service programs than to continue operating its own transmitter. Free time has been allotted for these programs since 1931.

Bucknell University, after about six years of operation entirely as an educational project, went on a limited commercial basis in 1931 as a medium of raising revenue to defray necessary maintenance and operating expenses. When new equipment was necessary in 1932 during the depression, however, it was decided to sell equipment and wave-length. In

the case of Bucknell University, business conditions prevented a fair trial of the adequacy of commercial operation.

Emory and Henry College, licensed in 1929, operated its station on a semi-commercial basis. Considerable criticism arose over the propriety of a church college selling advertising over the air. Depressed business conditions made it necessary that the station be sold. This was done, with the College maintaining some stock in the new company for a period of time. Eventually this financial interest was sold.

Oglethorpe University, as the last of the 124 institutions being studied to receive a broadcast license, attempted probably the most ambitious plan of all—a complete college education via radio and a complete professional training school for students interested in radio as a life's profession. Because its own transmitter was only 100 watts in power, it was necessary to use time over a larger station in addition to its own facilities if the proposed educational service were to reach the people for whom it was intended. Therefore, in turn, it was necessary to sell time over its own station which had little to offer in coverage to commercial advertisers. Very little was realized by this sale of commercial time, so that station eventually was sold.

The Catholic institutions, as a group, have shown far more business acumen than other universities and colleges in making commercial broadcasting a profitable business. Of the four that have attempted to turn their wave-lengths into profit-producing businesses, three (Loyola University, St. Louis University, and St. Norbert College) have been quite successful. The fourth (Marquette University) went into commercial broadcasting only half-heartedly—selling but one-tenth of its time on the air.

Commercial broadcasting, as it exists today, is a highly competitive business. It requires intelligent and shrewd management for success just as do most other competitive pursuits. There are certain fundamental

principles that seem to lead to success in most businesses, and educators ambitious to operate radio stations for profit need to study and adopt these ways of doing things. Too often in the past the schoolman—so the evidence of this study would make it appear—has seemed to believe that operation of a broadcast station can be carried on in a hit-and-miss manner as frequently as has been the practice in other pedagogical situations. The high mortality rate (75 per cent) of these educational-institution-owned stations being studied is mute testimony of the result.

A recent issue of *Time* not only shows the gigantic size of the American radio industry but also offers a word of caution to the educational institution that may contemplate buying a broadcast station for possible profits involved. It states:

However radio broadcasting may stack up among the arts, it is no slouch as a business. Last week the Federal Communications Commission, after looking at the records of the 660 active U.S. commercial broadcasting stations and the three major networks which feed 350 of them, revealed how radio stood in 1938. Its plant value and investment totaled \$1,068,339,901. Total revenues (time sales, talent placing, rental of network facilities, etc.) were \$111,358,378. Broadcasting expenses (talent costs, advertising, promotion, administration, etc.) were \$92,503,594. Net income from broadcasting in 1938: \$18,854,784, 17% less than 1937's total.

But if broadcasting business generally was comfortably in the black for 1938, a peep at who made how much revealed some disquieting statistics. Of the 660 stations in business, 419 made money, one broke even, and 240 were in the red. Of the luckless 240, 175 were "tea-kettle" stations doing a time-sales business of less than \$25,000 a year, most of them low-wattage local stations. The 350 network-affiliated stations as a group had 77% of the industry's revenue.⁹

⁹ July 10, 1939, p. 39.

COOPERATIVE BROADCASTING

A fundamental principle of broadcasting in the United States is that no educational institution shall be charged for the time that it uses on the air. This is based upon the reasoning that temporary use of broadcast frequencies is granted to private individuals on condition that operation be carried on in harmony with "public interest, convenience, and necessity." Education is the stabilizing factor within a successful democracy, hence to justify its own existence a radio station must show some evidence of promoting this education. From the very beginning of broadcasting, just what is and what is not educational has been a matter about which there has existed considerable difference of opinion. One extreme point of view holds that practically everything that goes on the air is educational—the other extreme limits what should be called educational offerings to that which schoolmen themselves prepare and present.

Granted that there are real educational services that institutions of higher learning can render via radio, the next problem to be settled is whether it may be carried on better by operation of one's own transmitter or by use of commercial facilities. The University of Michigan undoubtedly is the outstanding example of unstinted commercial cooperation; the University of Nebraska, on the other hand, probably would have been much better off today had it retained and developed its own transmitter as is indicated by the lack of cooperation it has received in the past. Operation of one's own transmitter is an expensive matter; independence of

shortsighted business men who see only profits and never public service, on the other hand, is a position to be cherished.

Of the nine stations operated by universities and colleges on more-or-less a commercial basis, six have network affiliations. Four of these are units of the Columbia Broadcasting System: Georgia School of Technology, Loyola University of the South, Cornell University, and one of the St. Norbert College stations. The smaller of the St. Norbert stations is a member of the Wisconsin Network while John Brown University is in the Arkansas Network. Three institutions (operating stations purely as educational projects) have improved their program offerings or coverage through cooperation of commercial broadcasters. WOI (Iowa State College) presents regularly the NBC "National Farm and Home Hour," and by means of electrical transcriptions rebroadcasts CBS educational features. WOSU (Ohio State University) relays to its listeners national and international programs of the Mutual Broadcasting System. The Texas Quality Network (covering many of the larger cities of the state) for many years has rebroadcast the WTAW (Agricultural and Mechanical College of Texas) noon-hour programs.

Several of the institutions in this study, after abandoning operation of their own transmitters, have received outstanding cooperation from the networks in development of strong broadcasting policies. The National Broadcasting Company has presented on definite schedule over a period of years series originated by Stanford University, University of California, University of Colorado, and about forty programs a year of the University of Rochester. University of Nevada appears each year in as many as twenty-five of the

NBC "Western Farm and Home Hour." University of Vermont furnishes speakers on the NBC "National Farm and Home Hour," and cooperates with the New York and Massachusetts Extension Services in other network programs. University of Michigan had its Professor Maddy's band instrument lessons offered as a NBC educational feature for a two-year period (1936-38), has offered glee club concerts over Columbia, and a series of guidance talks over Mutual. Louisiana State University programs are carried over the Louisiana Network.

Less frequent use of network facilities has been reported by Union College, with programs often being presented over NBC facilities but not on schedule. During Lent Wittenberg College has offered its a capella choir over both NBC and CBS Networks. As a very common example, Bucknell University offers about four or five programs a year over the three trans-continental networks. There exists a great variety in the degree of cooperation educational institutions receive from commercial broadcasters.

On the surface all this presents a very beautiful picture of the benevolence of gigantic corporations that possess a near-monopoly of profitable commercial broadcasting. It is interesting to study the detailed steps that one well-known institution, Bradley Polytechnic Institute, had to take in order to put on a single program over the CBS Network. An extract from the June, 1939, *Annual Report* submitted by the Director of Public Relations to the President, states:

CBS coast-to-coast broadcast. Bradley became one of the first colleges in this area to have a bone-fide coast-to-coast broadcast over a major network when the a capella choir was presented as a sustaining program over the entire Columbia

Broadcasting System, and, as such, was sent to 107 stations coast-to-coast. Working in close cooperation with WMBD and College of Music officials, the public relations office worked for several months in the task of securing permission for the broadcast, arranging a suitable time, securing necessary information concerning and permission to broadcast all the choir numbers and preparation of the continuity. These efforts included personal visits to the CBS office in New York (from Peoria, Illinois) and numerous letters, telegrams, and telephone calls. Notices of the broadcasts were sent in ample time to all Bradley alumni and former students on the mailing list. A complete recording of the entire broadcast was made over station WABC, Columbia key station in New York, and these records are now available at the public relations office and at the College of Music for alumni meetings, prospective students, and others. Reports of splendid reception of the broadcast have come in from coast to coast, and from north to south.

One representative of a state-supported institution, who happened to be an experienced program director, in seeking time on the air for his own College was frankly told by an official of another major network that the reason certain other educational institutions (as named) could get so many of these network programs was that they had active alumni who held influential positions, thus insuring their Alma Maters time on the air which was denied to smaller and less influential institutions. A brighter picture is given in such cities as Terre Haute, Indiana, where the Indiana State Teachers College has been given almost unlimited time on the air and where students have the experience of broadcasting the daily news service of WBOW (NBC), with the International News Service ticker being installed in the campus studios. Many such examples may be cited of this growing spirit of cooperation between educational and commercial interests.

There is no use blinking at the fact, however, that

commercial broadcasters are primarily (and naturally so) interested in the money-making aspects of radio-station operation. A few opportunity-wise rugged individualists throughout the history of the United States have managed to secure control of practically all the country's natural monopolies such as transportation and public utilities. Before the recent efforts of the Federal Government to gain back a semblance of control over what it previously had wasted so lavishly, these resources were turned into gigantic private fortunes with much of the nation's potential wealth being badly depleted in the process of "getting there first." Likewise, this laissez-faire economic policy has given birth to the present uneven distribution of wealth that plagues the United States today by its inevitable combination of politics and relief.

Radio was born in a later period of American history when there was at least a mild reaction to the traditional rugged individualism. This feared monopoly, in spite of wordy precautions, has actually developed in the form of the three major transcontinental networks. One of the great struggles at the present time is the effort being made by the Federal Communications Commission to limit these monopolistic tendencies, and, as in everything, there are two sides to this question. Successful commercial broadcasters have been remarkably efficient in the development of the radio business, and this efficiency has been carried over into their educational departments. Especially has this been true in the case of the Columbia Broadcasting System with its fine work in developing the "American School of the Air," for which a million dollars a year has been spent in its promotion during the 1940-41 school period. National Broadcasting Company has originated many original educational services, but has not emphasized

the classroom use of these programs in more recent years. Mutual Broadcasting System has practically no central organization for promotion of its educational features, but is slowly building up a creditable educational service.

The impression one gets in dealing with many of the network educational officers is one of suave self-satisfaction. One cannot help but wonder how long any of the major three would maintain expensive educational departments were the Federal Communications Commission officials to indicate definitely that they were no longer interested in purely educational broadcasting in the fulfillment of the "public interest" clause that is part of broadcasting regulations. Although the network officials have done a fairly decent job of furnishing an educational service, commercial broadcasters from the first have fought any definite allotment of time to educational services and any interference by the governmental controlling agencies in determining how these educational services shall be offered.

It is interesting in this respect to note a study by Frank Ernest Hill—not dealing directly with universities and colleges but rather with the general problem of adult education on the air—that has much in it directly pertinent to the radio progress of institutions of higher learning regardless of whether they operate their own stations or are dependent upon the facilities of commercial broadcasters. Relative to the degree of cooperation given by these commercial interests, this author summarized the complaints of educators as follows:

Broadcasters have shown much less enthusiasm than educators would like to see for experiments in establishing comprehensive schedules or long-sustained programs.

They have tended to offer the poorer and less salable hours to education.

When co-operating with educators in the production of programs designed to run for some time over networks, some broadcasters have not provided reliable lists of such stations as would use these programs in time for educators to send out effective publicity in advance.

While offering the facilities of a network, they have delivered only a percentage of it.

They have often given poor cooperation in the planning and production of programs.¹⁰

Possibly Mr. Hill has given a one-sided picture, but perhaps educators themselves are primarily responsible for the present condition of free time on the air for educational institutions being largely a matter of placing the proper pressure upon the commercial broadcasters. The testimony in this present study is conflicting. Co-operation has been splendid in many cases, but opposed to this there have been numerous expressions of dissatisfaction because of point-blank refusals of time, less brunt procrastinations in the form of unfulfilled promises, changes of program hour assigned to accommodate commercial commitments, and kindred annoying circumstances.

The recommendation of the present writer in his doctoral dissertation that an easy-to-contact complaint bureau be set up in the Federal Communications Commission as a formal method of protection to educational interests was a frank recognition that many commercial broadcasters will be "good" only when they have to be "good." While the theory sounds far from idealistic, pressure properly placed appears to be the most expedient way to solve the problem.

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¹⁰ *Listen and Learn; Fifteen Years of Adult Education on the Air* (New York: American Association of Adult Education, 1937), p. 147.

The Morrill Act of 1862 and subsequent Congressional acts giving aid to land-grant colleges have established a relationship between the Federal Government and the American States which has helped to extend the broadcasting activities of both state universities and land-grant colleges on a cooperative basis with the United States Department of Agriculture.

In 1926 the Radio Service was established in its Office of Information. The policy was begun of furnishing local radio stations with daily manuscript programs which covered the full range of the Department's activities. Ninety stations cooperated by broadcasting these script programs. On January 18, 1932, a correlation of Department and State broadcasting of agricultural information went into effect. Department "Farm Flash" manuscripts were sent to the editors of the Agricultural Extension Services for editing and adapting to local conditions. These editors then mailed the manuscripts, as changed to meet local conditions, to the cooperating radio stations. In some cases strictly local material was added to make a fifteen-minute broadcast.

At that time there were twenty-one commonwealths with state-supported educational institutions that entered into this cooperative arrangement. Nine of these operated their own stations: Purdue University, Iowa State College, Kansas State College, Michigan State College, University of Minnesota, Cornell University, Ohio State University, South Dakota State College of Agriculture, and State College of Washington. Seven of the others had previously held license but no longer operated a broadcasting station: University of California, University of Idaho, University of Maine, University of Missouri, University of Nebraska, North Dakota Agricultural College, and

West Virginia University. The remaining five had never held standard broadcast licenses: Massachusetts State College, Montana State College, University of New Hampshire, Rutgers University, and Rhode Island State College.

Since January 18, 1932, twenty-two additional universities and colleges have entered into this correlated radio service in cooperation with the Department of Agriculture. Five of these operate their own stations: University of Florida, University of Illinois, Oregon State College, Agricultural and Mechanical College of Texas, and University of Wisconsin. Nine others formerly held license but today use commercial facilities: Alabama Polytechnic Institute, University of Arizona, University of Arkansas, Louisiana State University, University of Nevada, New Mexico State College, North Carolina State College, Pennsylvania State College, and Clemson Agricultural College. The remaining eight (that have never held broadcast licenses) are: University of Delaware, University of Georgia, University of Maryland, Mississippi State College, Oklahoma Agricultural and Mechanical College, University of Tennessee, Utah State Agricultural College, and Virginia Polytechnic Institute.

The method and extent of this cooperation have varied from time to time, but last reports (1941) indicate cooperative radio manuscript service in effect in forty-one of the forty-eight states. The University of Alaska, University of Hawaii, and University of Puerto Rico are land-grant colleges. The Department of Agriculture, however, does not supply these three any material for radio use. The conditions in these areas are so unlike those in continental United States that no effort is made to supply syndicated radio releases.

In February, 1939, the style of "Farm Flashes" was

changed to make possible greater localization of information. The original type of these "Farm Flashes" provided a script of about seven minutes length each day. This resulted in many radio stations receiving items of information which had no local application or interest. Under the plan started in February, 1939, no effort is made to supply any definite amount of information to a certain state or radio station, or to fill any definite period of time with stories from the Department of Agriculture. As many items as possible are sent out, but each one is sent only to those states in which the information applies. This has led extension editors in the land-grant colleges to do even more supplementing and localizing than before. The result, in most cases, has been reported as a vastly improved agricultural information service for the listeners of each state.

In addition to this agricultural service known as "Farm Flashes," the Department of Agriculture Radio Service issues a daily-except-Sunday home economics script service called "Homemakers' Chats." Started in 1926 this service now is available in every American state. The only restriction (as is the case with "Farm Flashes") is that these "Homemakers' Chats" be used only in noncommercial broadcasts.

In seven states the extension editorial staffs of the land-grant colleges prepare an adaptation to supplement and localize information of the "Homemakers' Chats." These institutions are: Alabama Polytechnic Institute, Kansas State College, Massachusetts State College, University of New Hampshire, New Mexico State College, New York State College of Agriculture (Cornell University), and Oklahoma Agricultural and Mechanical College. In fourteen other states the extension editors of the land-grant colleges act as distrib-

uting agents, receiving the "Homemakers' Chats" from the Department of Agriculture and passing them on to radio stations or to extension workers, usually without making material changes in the manuscripts. These are: University of Arizona, University of Arkansas, University of Illinois, Purdue University, Iowa State College, Kansas State College, University of Minnesota, Montana State College, University of New Hampshire, Oklahoma Agricultural and Mechanical College, University of Tennessee, State College of Washington, University of West Virginia, and University of Wisconsin.

No charge is made by the Department of Agriculture for this manuscript service inasmuch as its preparation and mailing are functions of the Office of Information, and the preparation and distribution of the material for radio use comes within the organic act creating the Department. No leased wires are involved in this service inasmuch as it is distinctly a manuscript service which can be handled expeditiously by mail. No financial responsibilities are placed upon the various cooperating universities and colleges by the Department of Agriculture. Many land-grant colleges now have radio specialists who devote most or all of their time to planning programs, writing radio scripts, and assisting faculty members and field agents in broadcasting and in other techniques of the work.

The total amount appropriated for the radio service in the fiscal year, 1939, was \$31,140. This expenditure covered the programming of the Department's portion of the "National Farm and Home Hour," administrative expenses, and the preparation of the syndicated manuscript services to some 450 individual radio stations throughout the United States for the purpose of providing listeners with useful information on the

results of Department research and reports of the progress of Department programs. The Department pays for no time whatsoever on networks or independent radio stations.

The "National Farm and Home Hour" was established as a public service on October 2, 1928. It is a cooperative undertaking between the National Broadcasting Company and the Department of Agriculture. One purpose of this program is to acquaint the public in general and farm people in particular with information arising from research and service activities of the Department. At the outset this program was presented over a network of seventeen stations. Today (1941) it is carried by close to one hundred, coast-to-coast, on a five-day-a-week schedule. The Department's period of agricultural information usually is about fifteen minutes in length. The National Broadcasting Company makes this time available without charge.

Wallace L. Kadderly has been Chief of the Radio Service since May, 1938. Preceding him in this office was Sam Pickard (1926-27) and Morse Salisbury (1927-May, 1938). C. A. Herndon, as Assistant Chief, directs the writers and supervises preparation of the "Farm Flashes" and "Homemakers' Chats." John Baker, as Radio Extension Specialist, maintains liaison among cooperating agricultural agencies in the operation of the nation-wide system of dissemination of agricultural and home economics information arising from the work of the Department and associated state agencies. He advises and consults with State Extension Services relative to plans for regional and local programs in which the Department cooperates. Staff writers (1941) include: Dana D. Reynolds, C. R. Briggs, and Helen Crouch Douglass.

The United States Weather Bureau was the earliest of the federal agencies to cooperate with educational institutions. In fact, broadcasting of weather reports was a service that greatly encouraged the earlier experimentation in radio communication. Although the Department of Agriculture has developed most fully the possibilities of radio for dissemination of information, there have been numerous other federal agencies and departments which have worked in one capacity or another with educational broadcasters. Included among these have been the Department of the Treasury, Works Progress Administration, National Youth Administration, Agricultural Adjustment Administration, Resettlement Administration, and Soil Conservation Service. Morningside College (Iowa) has presented programs concerning the work of the United States Postal Department.

One of the best known of these cooperative efforts has been the Rocky Mountain Radio Council that has had for its purpose the production of professional-type programs for the colleges, universities, educational associations, state educational departments, women's groups, agricultural organizations, and the like in Colorado and Wyoming. It not only has produced programs and established a library of transcriptions, but also has issued a monthly *Guide to Good Listening* as a service to both home and school. Radio Council of Western Massachusetts, different from that of the Rocky Mountain Radio Council, includes representatives of radio stations. It is concerned primarily with the effectiveness and desirability of programs rather than their production. It has no paid staff, being locally financed through small membership fees. Rocky Mountain Council research concerns listener response to programs, that of Western Massachusetts evalua-

tions of network programs. Similar developments have been under way in both Florida and Texas.

Since 1936 Iowa State College and the State University of Iowa have worked together to give fuller coverage for programs of many state groups. University of Wisconsin has had a number of organizations co-sponsoring the development of both "Wisconsin School of the Air" and the "Wisconsin College of the Air." At least nine of the 124 institutions being studied have been active in building program services for the Parent-Teacher Association; seven have cooperated extensively with state educational departments; and four with state teachers associations. Two have worked with state medical associations, and one with the state press association. Michigan State College for a time had the Governor on a weekly program over its station.

Other instances of cooperation have been recorded with the League of Women Voters, American Association of University Women, Girl Scouts of America, Federation of Garden Clubs, and the *Catholic Herald-Citizen*. Louisiana State University has donated its broadcasting services over commercial facilities to aid charity organizations in raising relief funds. Program series have been broadcast with and for patriotic groups, for example, Daughters of the American Revolution and the American Legion. St. Norbert College has put on the air descriptions of smelt festivals and similar special days of the communities it covers in northern Wisconsin.

In addition to the Agricultural Extension Services of land-grant universities and colleges previously described, fifteen state-wide general program services of various types and degrees have been developed by: University of Arizona, University of California, Uni-

versity of Florida, University of Idaho, Iowa State College, State University of Iowa, Louisiana State University (both broadcasting and script services), University of Nebraska (music programs), Cornell University, North Carolina State College, Oregon State College, South Dakota State College, University of Utah, University of Vermont, and University of Wisconsin. There are three examples of cooperative broadcasting among these educational institutions that should be especially mentioned. University of Illinois and Purdue University rebroadcast a certain number of each other's programs. Iowa State College and the State University of Iowa cooperate in a similar manner. St. Norbert College, for the benefit of schools in northern Wisconsin, rebroadcasts some of the "Wisconsin School of the Air" programs as originated by the University of Wisconsin.

There have been numerous other examples of cooperation. In the earlier history of WAPI (Alabama Polytechnic Institute), its facilities were offered to Tuskegee Normal and Industrial Institute (*now* Tuskegee Institute), a Negro college. WILL (University of Illinois) presents series of programs for other institutions of higher learning within the state. WOI (Iowa State College) in 1932 offered its facilities to other Iowa colleges, and, as a result, there have been twelve or thirteen series a year representing the denominational colleges over a state-owned station. St. Lawrence University likewise offers its facilities to four other New York educational institutions. The University of Florida, through its Radio Guild, has been in the process of forming a National Radio Guild for the exchange of broadcasting ideas and free syndication of scripts among educational stations.

At least eighteen of the thirty institutions operating

stations today have been actively cooperating with public school systems. The Madison City Schools were instrumental in helping the University of Wisconsin establish the "Wisconsin School of the Air." KFKU (University of Kansas) has used program talent from the Lawrence Public Schools besides supplying them with broadcasts planned for supplementary class use. Four Wisconsin public school systems regularly have made use of the facilities of the two St. Norbert College stations. WOSU (Ohio State University) has offered definite program time for public school speech and music units. St. Olaf College, as well as others, broadcasts regularly such high school features as glee clubs and other musical organizations. Many other examples could be cited of the present tendency to cooperate as between commercial and educational interests. This movement began in the 1930's, and has been growing substantially ever since.

Alumni have been important factors in the broadcasting history of the 124 institutions being studied. The Alumni Association of Kalamazoo College (Michigan) has presented series of programs over local commercial facilities. During 1939 the University of Michigan sent thirty recordings of campus speakers and other talent to various alumni groups, and this service has been growing each year. Over its own transmitter St. Olaf College has presented weekly news series for and about its alumni, occasionally bringing ex-students before the microphone. Alumni of Cornell University have been responsible for the broadcasting of the "Cornell Chimes." In the early history of Ohio State University broadcasting station, alumni officially were represented on the committee charged with the development of policies. At the University of Cincinnati, the Alumni Association financed the employment

of a director for the student-motivated program series. Pittsburgh alumni of Pennsylvania State College in 1921 contributed \$1,000 for equipment which was largely responsible for continuance of a station that later did pass out of existence. In 1922 alumni of Rensselaer Polytechnic Institute donated the original equipment for a station that is being operated today.

PUBLIC RELATIONS BROADCASTING

In the pioneer days of educational broadcasting weather reports, market news, descriptions of athletic events, phonograph records, and talks usually made up the programs that were presented. It would require many pages to list the variety of program types that are on the air today. Educators have been imitators of successful commercial broadcasters, and, at the same time, many of the sponsored programs now being offered originally were "brain children" of educational stations. From plain formal talks and musical numbers there have grown dramas, interviews, roundtables, forums, informal scriptless programs, and many other innovations. There always is a premium upon new ideas that will attract audiences—opportunities for individuals that may carry with them small shares of fame and fortune, although it must be remembered that radio is so fast moving that any leadership is on but a temporary basis.

Some educational institutions have been disappointed that their radio stations *per se* have not been effective in increasing enrollments. Radio, it would seem, does have strong possibilities of interesting high school students and their parents in the educational opportunities of one college as compared with another. A few examples can be presented. Milton College has offered a series in which each program has been dedicated to one of the nearby cities from which students come. Included are a brief history of the city, its governmental set-up, educational facilities, and an interview with the school superintendent. Michigan State Col-

lege has broadcast a series under title, "Going to College?" This has been planned not only as information for youths eligible for college entrance but also as an explanation to the general public of the work that the College has to offer.

A slightly different approach has been made by the State College of Washington in its "High School Parade," first offered in 1937. On this weekly series a salute to an individual school has been given over the air by College talent. A campus orchestra supplies the music. Information about projects, activities, personalities of the school being honored are mentioned throughout the program. Interviews with students now attending the College but formerly from the high school being saluted are included on the broadcast. Through these interviews, high school students have received many valuable suggestions for making thorough preparation for college entrance. Included also have been interviews with an outstanding athlete if he happens to be an alumnus of the high school being saluted.

Bradley Polytechnic Institute has taken the microphone into dormitories and fraternity houses for interviews and descriptions of the life found there. Michigan State College, in similar manner, has visited farms, barns, and laboratories. In 1937 the University of Florida inaugurated the policy of broadcasting the various agricultural and industrial activities carried on within the state. Broadcasters have gone to the different plants and farms to give eye descriptions of their operations while the work is actually being done.

Broadcasts in foreign languages as distinct services to American population minorities have been developed by several institutions. St. Olaf College has offered an informal "Coffee Time" series in which the broad-

casters speak Norwegian with an occasional clink of spoon against cup for the sake of background effect. Luther College broadcasts church services in both German and Norwegian; St. Olaf College does likewise in German, Norwegian, Swedish, Danish, and Finnish. St. Louis University has offered all-music programs with comments in the native tongues of the music being featured—German, Greek, Hungarian, and Italian. University of New Mexico has broadcast in Spanish as a special service to meet the peculiar needs of its semi-Mexican population. University of Michigan has dramatized foreign literature.

One of the most extensive and unique of these foreign-language broadcasting services is that reported by Ralph W. Steetle, Director of Radio at Louisiana State University, in his 1938-39 *Annual Report on Broadcasting Activities* as follows:

The objectives of the broadcasts prepared for the 400,000 French-speaking people of the state were two in number: (a) to assist the listeners to live better by offering pertinent vocational information through the medium of their own language, and (b) to perpetuate and improve the French language as spoken in Louisiana.

Since the chief occupation of these people is agriculture, the programs took the form of "Farm and Home" broadcasts in French. The typical French settlement often looks to one of its older members for advice and suggestions. Utilizing this fact, the programs were centered upon the farming and home-making activities of "None Phillip" and "Tante Alice," the main characters of the dramatizations. These two characters, along with son Joe, neighbor Molaison, and Parish Farm Agent Brunet, went about the work of their farm, discussing ways of improving procedures and results.

The Agricultural Extension Division prepared seasonal lists of topics and information on the subjects. After the project worker wrote the scripts, they were checked for form and accuracy and sent to the French Department for

translation. The scripts were then retyped and prepared for production.

The results achieved by the French Program justify the time and energy expended upon it. Often the difference in language prevents the Parish Farm Agent from contacting French-speaking farmers. One agent told us that he had been trying to get people to build chicken brooders for many months. After a program on building chicken brooders was released many farmers built them and asked him if they had built them "like the radio said."

"Old Fiddlers' Contest" has been an annual affair likewise serving a minority group, sponsored by the State College of Washington without interruption since 1926. During one evening each March the entire station time is turned over to the favorite music of earlier generations. Contestants come from many miles around. Usually there are about thirty fiddlers who go on the air, ranging in age from fifty to ninety. Their informal square dances and old-time music fill the studio halls. An eighty-seven-year-old man was a recent winner. Nearly all the contestants get awards on the spot or later from merchants in Pullman and nearby towns who have been impressed by their efforts. Many of the violins played were made originally by the men using them. Between 2,500 and 3,000 pieces of mail are said to be received as a result of this annual broadcast, and also numerous telephone calls while the program is on the air. The program has proved of educational worth to a number of students on the campus for they are given first-hand information of the music of the early pioneers.

Six of the 124 institutions being studied over a period of years have specialized in various forms of religious broadcasting, namely: John Brown University, University of Illinois, Luther College, St. Olaf College,

Oregon State College (through the Ministerial Association of Corvallis), St. Joseph's College, and the State College of Washington (through both the Ministerial Association of Pullman and the broadcasting of series on the history of religion). The February, 1939, *St. Olaf College Bulletin* described a unique service as follows:

College Bulletin: Designed as a small newspaper of the air, the *College Bulletin* furnishes a new way for churches and organizations to publicize their meetings, keep listeners informed as to what meeting they will want to attend. It does away with the difficulty that churches have in telling people outside their own territory of special occasions, and thus increase attendance at their events.

Broadcasting of chapel exercises has been quite a common type of program over the educational stations, with this form of broadcast being developed extensively by the University of Minnesota, Luther College, and St. Olaf College. Union College has presented its chapel services to an international audience via the General Electric short-wave station. Baccalaureate and commencement exercises have been presented by a few of the schools that operate their own stations, and even occasionally over commercial facilities by those institutions that no longer hold a license to broadcast.

Louisiana State University has broadcast a series over a four-week period to help people fill in their income-tax returns at the time when this information was most needed. While the speaker spent most of his time talking to the average income taxpayer, he also concerned himself with the tax problems of the small business man and the corporation. This same University also has given a monthly program informing the citizens of the conditions of the state's business. Mem-

bers of the staff of the Bureau of Business Research cite statistics from the Bureau's publication, then discuss and explain the various trends occurring throughout the commonwealth.

Menus, recipes, and book reviews have been offered on one program series by the University of Nebraska, and this is typical of many similar radio offerings by educational institutions. The "Bride's Program" was a series broadcast by the University of Minnesota to help prospective brides in planning their weddings, trips, homes, and furnishings. The large department stores, the University Department of Home Economics, and the various Twin City experts on buying and planning appeared on informal interview forums for this broadcast.

Alice Keith, then Broadcasting Director of the American School of the Air, in speaking before the First Institute for Education by Radio in 1930, said:

The projected plan of using radio in Wisconsin as a political forum, though fraught with danger, is excellent. Radio in Wisconsin can perhaps bring back the democratic ways of the town meeting. The University station will have to be careful, however, that it does not deal with a problem like the one we had while I was a student at Wisconsin. One governor was actually elected on the grounds that he would do away with taxes entirely and, incidentally, the University along with them.¹¹

The two state-owned stations—WHA and WLBL (Stevens Point), operated by the Wisconsin State Department of Agriculture—drew up an agreement on August 12, 1932, with representatives of the five major political parties, providing for the free use of the

¹¹ "Broadcasting Educational Programs Over a National Network," *Education on the Air* 1930, pp. 229-30.

facilities of these stations in the pre-primary campaign. The schedule of broadcasts, with time equally divided, was determined by drawing lots. This policy has been continued ever since so that all parties, regardless of financial backing, receive equal time on the air in which to tell their story to the voters. Director Harold B. McCarty, of WHA, has described this service as follows:

... Since 1932 a series of political forums has been held in connection with each state election. Time on the air has been made available without charge or censorship, to all parties and independent candidates qualified for inclusion on the state ballot. In these programs each party or group participates in an equitable division of time, selects its own speakers, and assumes responsibility for arrangements to use the time assigned to that group. By agreement discussion is limited to state and national issues. Opposing groups have cooperated most heartily in making arrangements, and the Wisconsin plan for political education by radio has moved forward with real success.¹²

As soon as the 1933 Legislature had convened, against the advice of many people, WHA set up a microphone in the state capitol to broadcast a daily program offering news and views by the legislators, and special messages by the governor. At first a quarter-hour daily program, beginning at 1:00 p.m., was devoted to this service. Every state senator and assemblyman was invited to use the radio to keep his constituents informed of his activities and interests. He was asked to choose his own topic for discussion. So many grasped the opportunity to extend their services to the people "back home" that it was necessary to double the

¹² *Twenty Years of Public Service Broadcasting* (Madison: University of Wisconsin, no date), p. 206.

original time allotment. Each speaker has been allowed free rein; no censorship has been suggested.

Important legislative events such as the inauguration of the governor, opening session, governor's budget message, are put on the air as they occur. Radio has proved to be a strong link between the public and its government. Legislators in their broadcasts speak frankly and freely. If they wish to attack the administration, there is no one to stop them. If someone out in the state wishes to take issue with a legislator or to supplement his remarks, the state-owned stations have a "Citizen's Forum," offering him this opportunity. These legislative programs, which have been continued to the present time, are heard each day the legislature is in session. To help mike-shy legislators, WHA in 1937 initiated a short course that included radio speaking and radio writing.

It should be added that controversial issues are not avoided, but every effort is made to have fair representation on all sides of the questions being discussed. An example of this has been the "Farm Organization Forum." In this all state-wide farm groups, including those of widely varying philosophies, have arranged for their own distribution of time and have gone on the air free to speak their minds. In 1939 the "Congressional Forum" gave Wisconsin's national lawmakers in Washington free time on the air. Each representative and senator had a quarter-hour every other week, and by means of transcriptions made in Washington and played in Madison over WHA the citizenry hear reports of its congressmen. This continued during the period Congress was in session.

From the beginning of broadcasting, music has filled a good share of the time on the air. The early efforts to keep a program schedule full enough to satisfy the

federal licensing authorities saw the broadcasting of phonograph records in a more-or-less haphazard manner according to the ingenuity of the operator. Professor E. B. Gordon, of the University of Wisconsin, was the pioneer among educators in developing a program for children which has continued without interruption from 1922 to the present. WOI (Iowa State College) has offered its "Music Shop" of electrical transcriptions since 1925. Several annual musical festivals have grown from radio program series. Since 1930 the Eastman School of Music at the University of Rochester has broadcast its "Festival of American Music" over network facilities. The annual "Ohio Radio Festival" also was begun in 1930 by Ohio State University. University-sponsored "Nebraska Rural Chorus" was originated in 1932. University of Wisconsin's "Radio Music Festival" has been continued each year since 1934.

In a few institutions fraternities have sponsored program series. This work has been developed over a period of years at the University of Illinois, Ohio State University, South Dakota State College, and the University of Oklahoma. Phi Delta Kappa, in the last named institution, has presented lectures on professional subjects.

In conclusion it may be said that any radio program has public relations value if it is remembered that there are both positive and negative values. A poorly presented broadcast is like a poorly delivered sales talk—it does more harm than good by creating in the listener a feeling of disgust or resistance. The examples given above are typical of a development that has been going on for more than twenty years—a constant experimentation with and combination of old principles and new forms. The historical recording of these could be

multiplied many times, but the pattern remains somewhat the same. It is the purpose of this volume to relate what has been done, not to evaluate the public relations broadcasting of these 124 institutions of higher learning that have held broadcast license—whether or not their present radio work is being carried on over educationally owned stations or over commercial facilities.

ADULT EDUCATION BROADCASTING

Very closely related to public relations broadcasting are those programs intended primarily as adult education offerings. In fact, it is difficult to draw any clear line of distinction between them. There is little question that in effectiveness the informal broadcasting services of both commercial and educational stations today are rivaling the traditional educational procedures of high schools, colleges, and universities. The man of twenty years ago—on city street or isolated farm—was limited in his thinking and conversation quite generally to commonplace discussions of weather, someone's new baby, church affairs, or deliciously vicious scandal. These topics have not disappeared in the modern America, but they are now mixed with more-or-less intelligent general discussions about the war, economic and social conditions of the world, and difference of opinion about the current great personalities.

It matters very little that much of this modern common chatter is little more than imitative reproduction of what someone else has said over the air, the fact remains that everyday discussion is more varied and interesting than it has been in past ages. In other words, the common man knows more today than did his parents in their youth. Radio deserves the major credit for this raising of the general level of intelligence concerning public affairs. Surely, for actual educational contributions, it is beginning to put to shame the expensive American public education machinery in which citizens make annual investments of millions of dollars. A few of these adult radio education services should be noted,

Foremost among these have been newscasts and commentators. Those that are broadcast over coast-to-coast networks naturally have been the most influential in shaping the thinking of Americans, but educational institutions have contributed their share to this process. Newscasts were early developed as public services by universities and colleges. These have included news of the activities of the institutions themselves, (that is, campus briefs), local, state, national, and world items of current interest. Eight of the larger educational stations in operation today are affiliated with either the Associated Press or the United Press. As a public service, Purdue University broadcasts police reports.

"News of the Weeklies," presented first in June, 1935, was one of the first—if not the first—program series of its kind. Each week the Editor of Publications at State College of Washington assembles from weekly newspapers outstanding news events and editorials—thus offering a medium of expression for the smaller communities of the state. Shortly after this series made its initial appearance over KWSC, two or three commercial stations in the area, realizing the value of such a program, made certain adaptations of it for sponsors. Another KWSC series, "The Globe Turns," has been a dramatization of the highlights of the week's news. This script has been prepared in a class in radio writing, and the production has been carried out by a dramatic group.

There have been broadcast some historical series based upon unusually authentic data by many of these institutions. The following examples are typical of this type of radio program. "Alabama Women Who Have Achieved" has been presented by Alabama College. "Campus Trails" of the University of Colorado has featured the state-wide services of that institution.

Oglethorpe University has presented "History and Literature of Georgia"; University of Kansas, "Kansas Then and Now"; Louisiana State University, "History Under Nine Flags"; University of Nebraska, "Nebraska History"; University of Oklahoma, "Oklahoma History and Industries"; Oregon State College, "Oregon History"; and the University of South Dakota, "County Historical Series." The University of Wisconsin has emphasized this type of broadcasting probably more than any other station-owning institution.

At least eight of these institutions have carried on series emphasizing the profession of teaching over a considerable period of time. WILL (University of Illinois) has presented a series, "Problems of School Organization," as developed from the research work of its College of Education. WBAA (Purdue University) has offered a more general theme, "Education and Society." University of Nebraska was a pioneer in this type of program with its College of Education broadcasting professional programs as early as 1925. Some of these were dramatized as, for example, "The Public Schools of Everytown." The Oregon Department of Public Instruction has offered numerous series over KOAC (Oregon State System of Higher Education), most recently with the purpose in mind of making teachers in the state curriculum-conscious. Among the earlier programs of the University of Wisconsin were series planned especially for periodic use in teachers' meetings. The Michigan Education Association in 1936 began a weekly series of teachers' meetings in which superintendents in various cities called upon their teachers to participate in the programs over WKAR (Michigan State College).

Stanford University adopted its present educational broadcasting policy when it initiated the "Stanford

University Hour" on January 8, 1934, with President Ray Lyman Wilbur as the first speaker. This series of fifteen-minute broadcasts was inaugurated in cooperation with the National Broadcasting Company, with the programs being planned to fit in with the adult education work of such organizations as the California State Department of Education, California Council of Parent-Teacher Associations, and the American Legion. The "Stanford University Hour" now reaches a coast-wide audience through the stations of the NBC Pacific Coast Blue Network. From their very beginning, these programs have consisted of talks prepared and delivered by faculty members with occasional musical programs by campus glee clubs and choirs. They have frequently been reported as being used in teachers' meetings throughout the West—the broadcast being heard and a discussion following the line of thought as presented.

University of California (representing seven campuses of this state-owned institution) has developed a unique adult education service. On December 3, 1931, there was inaugurated a state-wide radio service that developed into as many as ten programs a week. However, with limited personnel, it was considered desirable to reduce the number of broadcasts and to stress improvement in the quality of those presented. Gradually this radio service was reduced to evening programs featuring a radio spokesman called the "University Explorer." Originally this was a half-hour program presented weekly, consisting of straight narration by the "Explorer," and concluded by an interview with the faculty member whose work was being featured. Subsequently, the program was reduced to fifteen minutes and presented three times a week over the NBC Networks. Occasionally, the "Explorer" has brought a

faculty member to the microphone for a personal interview. This anonymous character literally explores the University for interesting stories of scientific and scholarly achievement. Political, social, and economic questions of current interest also have been treated.

Chief advantage of this program plan has been that it has provided a standard of performance, both in script preparation and microphone presentation, besides being relatively simple and inexpensive from a production standpoint. Facts are obtained from the faculty member concerned and from background research for each story. Script then is prepared by a staff writer, referred back to the authority quoted for final approval or revision, and finally broadcast by Radio Administrator Hale S. Sparks, who acts as the "Explorer." Until the inauguration of this series, programs were being presented with faculty members preparing their own scripts and doing their own broadcasting. Hence, the presentations were extremely variable in effectiveness, and considered, on the whole, as being unsatisfactory. Development of the "Explorer" program has appeared to solve this problem. From the radio standpoint, the broadcast has been more professional and has been found to be building larger audiences than previously was the case.

Series on parent education covering considerable periods of time have been offered by at least fourteen of the 124 educational institutions being studied. These have been: University of Florida, Oglethorpe University, University of Illinois, Purdue University, Luther College, Iowa State College, State University of Iowa, University of Kansas, University of Michigan, St. Olaf College, St. Louis University, University of South Dakota, University of Utah, and University of Wisconsin. A series under title of "Parent Education" has

been sponsored by the Parent-Teacher Association and the University of Florida Department of Psychology. The "Parent-Teacher Forum" of the University of Illinois has been directed by the chairman of the Radio Committee of the Illinois Congress of Parents and Teachers, and has consisted of music and talks of interest to parents and teachers. Among the University of Kansas program series have been: "Problems of the Growing Child," "Educating Yourself and Child," and "Health Through the Ages."

The "Marital Relations" series of the University of Michigan, consisting of sixteen faculty talks, was followed each week by from 150 to 900 requests for mimeographed copies. Five Saturday afternoon medical talks made up the "Health" series. The "Literature" series included nineteen thirty-minute presentations by faculty members. St. Olaf College has had series under titles of: "Every Day Science," "Parents and Teachers," and "Fact Finders." St. Louis University was one of the first to present organized series for education and information of adults. "Parents' Forum" dealt with subjects of child welfare. Then followed radio courses in English, history, psychology, and other subjects taught in the University. A presentation was made of the chief English and American poets. This type of program has been the principal educational contribution of one of America's oldest institution-owned stations.

As a result of an experiment which began in 1928, there was formed in 1930 a "Radio Child Study Club" as a unique state-wide program offering. This was developed to the point that identical programs were given weekly in the afternoon over WOI (Iowa State College station licensed to operate in the daytime only) and on the same evening over WSUI (State University of

Iowa) so that groups might choose at their convenience a day or night hour. At present these programs are broadcast and rebroadcast at the same time over both stations in order to supply parents with up-to-date material on child rearing direct from child-development centers. The Iowa Child Welfare Research Station and the allied departments of Iowa State College, State University of Iowa, and the Iowa State Teachers College cooperate in presenting these series. Four courses are included in a two-year cycle with twelve programs in each annual series: (1) the family, (2) the pre-school child, (3) school-age children, and (4) adolescents. Each course has consisted of a short talk one week and a roundtable discussion on the next, broadcast alternately each two weeks.

Two study plans have been offered—one for groups and one for individuals. Ten or more persons may organize a study group and enroll without charge by reporting the names to either station. One person, chosen as a leader, is then supplied in advance with a copy of the talk and a list of reading references. The group is given the opportunity to work out a suggested solution to the problem to be discussed, with a report form being provided for this. Individuals, who find it difficult to organize a group, may become members and receive printed matter upon payment of a nominal fee. Questions sent in by individuals are discussed over the air at the succeeding broadcast. Parent-Teacher Associations, by forming as listening groups, receive credit toward filling the goals for units.

Beginning in 1937 the University of Utah Extension Division, in cooperation with the Utah Congress of Parent and Teachers, presented Saturday series of lectures on parent education. Typical of this work was the second series in the spring, 1939, under title of

"Today's Children—Tomorrow's Adults," with topics pertaining to family life and its relationships. Purposes of these series have been: (1) to encourage formation of "listening-in" study groups of parents and other individuals, (2) to give information to individuals and study groups, and (3) to encourage further reading. Individuals have become members in two ways: (1) by signing the enrollment blank for "Individual Listeners," and (2) by joining a radio "Listening Group." Mimeographed material has been furnished to each individual becoming a registered member and to every registered listening-in group. There has been no enrollment fee, and no charge has been made for the materials mailed to registered members. Certificates have been issued to those who have reported themselves as having listened to at least six programs.

WHA cooperated with President Franklin D. Roosevelt's efforts to overcome the problems of depression. The "Wisconsin College of the Air," through the facilities of WHA and WLBL and the National Youth Administration, inaugurated on August 26, 1936, a radio group listening project. By March, 1937, there had been established 118 listening centers consisting of 306 listening groups with an estimated total of more than 8,500 listeners. Of this number about 5,000 were located in school centers, 2,500 among the youth of the NYA projects, and 1,000 in community centers. While the specific or central objective of the group listening-in project was to bring a high-grade educational opportunity to thousands of out-of-school youths who could not continue their preparation as well as to members of the adult population desiring to form listening groups, the educational possibilities of these programs for the classroom were not neglected. Some Wisconsin schools were reported as having received

helpful assistance in the classroom from these broadcasts.

The procedure for organizing radio listening groups was quite definitely set forth in two bulletins, which were sent to the organizer or sponsor whenever a listening group was being established. Where the groups were large enough to warrant, the recommended plan was that an instructor should be appointed from the list of available teachers in the Emergency Education Division of the Works Progress Administration. In addition to the information given through the bulletins regarding procedures for organizing and conducting radio listening groups, carefully prepared study aids of lesson previews of all the "Wisconsin College of the Air" lectures were mailed to group sponsors each week to guide them in directing the discussions. At the end of the course an examination was provided for those who cared to qualify for the certificates of achievement granted for satisfactory work.

A survey and analysis of this work submitted by R. N. Yost, Supervisor, Radio Study Groups Project, *Project #41-Y2*, under date of June 19, 1936, outlined some of the difficulties that were met in this project. The report states, in part, as follows:

The most common obstacle to confront efforts in this project was the inability to get qualified teachers to act in the capacity of teacher and/or leader of Radio Study groups. As previously stated, the Federal Emergency Education Division had agreed to execute the assignment of paid qualified teachers to conduct the organization and operation of Radio Study groups, in localities where interest was shown in this project provided funds and eligible teachers were available. They were, however, definitely handicapped by a lack of necessary funds, the unfulfilled hopes for additional money and shortage of eligible teachers where there were available funds. As facts show, in many territories where funds were

available in at least some measure, sufficient teachers were not. As a result of this situation, Radio Study Groups Project progress was retarded. The only solution, in view of the aforementioned problems, particularly the last, was to continue organization and operation on a series of premises . . . under the local direction of voluntary group leaders.

These obstacles were too much to overcome, however. Work with the listening-group project stopped in the spring of 1937. Experience gained indicated that unless intelligent, conscientious, and capable leaders could be found, the groups did not succeed. Without payment for services, it seemed impossible to secure such leadership. Where the social appeal had been combined with study, the results seemed best. The group apparently had to offer something which the participants could not get by listening at home.

KOAC (Oregon State System of Higher Education) has pioneered in the study-group movement; in fact, makes claim of being the first station in the United States to use the idea of listening groups. These have provided an organized study plan for the year with discussion questions and reading references. Guest lecturers, authorities in their fields, present the radio programs. The radio speaker provides the keynote discussion—the outlined program serves as a guide for the meeting. These series have been presented cooperatively with such organizations as the American Association of University Women and the Federation of Garden Clubs of Oregon. The parent-education study club has been on the air continuously since 1929. At one time (1938) transcriptions of this series were made at KOAC and distributed to several of the smaller stations in remote parts of Oregon where the KOAC signals could not reach. During 1940 there were five of these Oregon commercial stations and one station in

each of two neighboring states that were repeating one or more of these club programs by using KOAC manuscripts.

Twelve of these 124 institutions have attacked the problem of good speech via the air. Since 1935 the University of Florida has developed a speech course for use in schools that has been reported as being listened to in classrooms of both white and colored children as well as in CCC camps. This program now is distributed throughout the state by means of electrical transcriptions broadcast by commercial stations. Directed toward adults, the University of Illinois has offered a series under title of "Speaking in Public." Purdue University has offered a similar service in its "Better Expression" program. The University of Oklahoma broadcasts its speech series especially for high school students. "Classroom Echoes" of the State College of Washington has presented over the air the outstanding work of the previous week as done in the campus speech classes. "Speech We Use" has been a program series of the "Wisconsin College of the Air," originated by the University of Wisconsin. University of Michigan has developed a course in diction and pronunciation over a period of years. Usage and meanings of English words have been included within a St. Louis University series. "Let's Communicate," that the University of Utah has given in cooperation with a daily newspaper, has included pronunciation, spelling, public speaking, and drama.

The Iowa State College Library began helping the educational program schedule of WOI in 1925. The first common project was the broadcasting of reviews of recent books. Three years later (1928) the reading of books over the air was begun. This led to the establishment of the "Radio Book Club" early in 1930, a

plan by which books may be borrowed from Iowa State College for a small fee and return postage. Circulation of books began on February 12, 1930, with an enrollment of 231 members who paid a fee of three dollars each for the privilege of borrowing twenty books. Intended primarily as a service for people in rural areas and smaller communities where there were no circulating libraries, it soon was discovered that many of the subscribers lived in cities such as Des Moines where it was cheaper to buy a membership than pay carfare downtown to go to the library.

To date there have been issued more than 4,000 memberships, many of whom have renewed them several times. The total circulation up to June 1, 1939, was 40,761 with 1,384 different titles available—and with only five books lost during the first eight and one-half years of operation of the plan. Analysis has shown that 35 per cent of the "Radio Book Club" members live in cities and towns having library services, 36 per cent in localities without library services, 4 per cent with R.F.D. as part of their addresses (although this figure probably is low because many individuals are so well-known in their communities that it is not necessary to add the R.F.D. to their addresses), and 25 per cent who live outside of Iowa.

Book reviews, it should be noted, have been commonly used as program material, with the following seven additional institutions having developed strong series: University of Illinois, Luther College, Louisiana State University, St. Olaf College, St. Louis University, Cornell University, and University of Wisconsin.

INSTRUCTION VIA RADIO

Theoretically, it would seem that radio should be an ideal medium for universities and colleges in carrying on their off-campus instructional activities. A conclusion (not a recommendation) of *Education by Radio in American Schools* states:

*Courses for college credit given by means of the radio have not proved as successful as have certain other phases of educational broadcasting. With the exception of unusual situations, this type of educational radio program series will not be greatly developed by educational institutions. The trend of program building today is to offer what will interest as many groups as possible so as not to be limited to a small audience with a definitely defined interest. Worthy as have been the efforts of . . . institutions of higher learning to broadcast college courses for credit, actual enrollments have been so small as to be almost negligible in comparison with listening groups of other types of educational broadcasting.*¹³

Since 1923 there have been thirteen institutions of higher learning that have attempted to offer radio extension courses for credit; eight of these have held standard broadcast license.¹⁴ These thirteen have put on the air about 150 of these "credit" courses, with a total enrollment of approximately 10,000 students, and a much less reliable estimate of about 1,700 of these receiving the academic credit for which they have been enrolled. These thirteen (with years when they were

¹³ Atkinson, *op. cit.*, p. 119.

¹⁴ These radio extension "credit" courses are described very briefly in this volume because they are presented in full detail in Doctor Atkinson's *Radio Extension Courses Broadcast for Credit* (Boston: Meador Press, 1941).

actively broadcasting extension "credit" courses) were as follows: Massachusetts University Extension Division (1923-36); University of Nebraska (1924-33); State University of Iowa (1925-27); University of Kansas (1925); University of California (1927); University of Southern California (1928-30); University of Florida (1929-31); Oglethorpe University (1931-35); University of Utah (1932-36); Fairmont State Teachers College (1933); University of Hawaii (1935-40); Oregon State System of Higher Education (1935-40); and University of Akron (1939).

The State Universities of Minnesota, Michigan, and North Dakota have offered series of radio programs to supplement their extension and correspondence-study work without attempting to instruct directly over the air. Kansas State College as early as 1924 offered radio courses for successful completion of which certificates but not academic credits were awarded. Since 1934 Ohio State University, after examination by the department concerned, has granted "proficiency credits" for work taken over the radio. The student must present evidence of having completed the assigned supplementary readings, and cannot take the examination for official credit until fees are paid and residence has been established on the campus. Inasmuch as a maximum of thirty of these "proficiency credits" for work taken by examination in lieu of class attendance is allowed toward a degree whether or not the individual listens to the classroom courses presented over the air, the radio is more of a guide to the student's understanding than it is a direct means of fulfilling requirements for a degree. St. Olaf College in 1941 organized its more formal offerings into a "School of the Air" in which certificates are awarded for successful completion of radio courses,

with the possibility being suggested that these may eventually be used for College credit.

While courses for college credit via the radio have been distinctly limited both in number and success, there have been many informal non-credit courses offered by the educational institutions included in this study over both their own stations and over commercial facilities. Agriculture, history, literature, music appreciation, science department offerings, and special instruction for speakers and writers have been series frequently given. Five institutions have offered instruction by radio in three languages. Four of these—Oglethorpe University, State University of Iowa, University of Kansas, and Michigan State College—have broadcast informal lessons in French, German, and Spanish; while Ohio State University has offered French, Spanish, and Italian. French and Spanish courses have been put on the air by the University of Nebraska; French by both Montana State University and University of Wisconsin; and Spanish by Louisiana College, University of New Mexico, and Oregon State System of Higher Education.

The following is not a complete list of the different fields of learning that have been broadcast in series by the 124 institutions in this study, but it is indicative of the wide scope of knowledge that is being put on the air in radio's educational services. These subjects are: Advertising, arts and crafts, astronomy, aviation, Bible history, bird life, botany, chemistry, criminology, dentistry, economics, education, engineering, English, ethics, farm accounting, farm electrification, geography, geology, government, health, history, home economics, journalism, law, mathematics, mental hygiene, natural history, Pan-American problems, personal development, pharmacy, philosophy, physics, poetry, political science,

psychology, public speaking, rural sociology, safety education, salesmanship, sociology, soil management, thesis writing, veterinary medicine, and zoology.

An overused term in radio education has been the school or college of the air. Ben Darrow made such a noteworthy success in the original "Ohio School of the Air" as has Harold McCarty of the "Wisconsin School of the Air" that the average man pictures immediately a classroom service for children when these terms are used. "School" and "college," as part of program series titles, have not always been limited to supplementary classroom services. The Michigan State College "Farm Radio School" (1925) and the later "Michigan State College of the Air" (1935-38) were directed to adults. The "College of the Air" (1924) of Kansas State College likewise has been intended for older listeners as have been the "Farm School" (1925) and the "University of the Air" (1932-37) of St. Louis University.

Of the 124 institutions in this study, at least twenty-five have directed some type of radio service toward the child in the classroom.¹⁵ These have been Alabama College, University of Connecticut, University of Florida, Purdue University, Iowa State College, Luther College, State University of Iowa, Kansas State College, University of Kansas, Louisiana State University, Michigan State College, University of Michigan, St. Olaf College, University of Minnesota, Montana State University, University of Nebraska, Cornell University, University of North Dakota, Ohio State University, University of Oklahoma, Oregon State System of Higher Education, University of Texas, State College

¹⁵ Historical developments of classroom broadcasting of the major networks, state educational departments, universities and colleges, and public school systems are described in fuller detail in the third volume of Doctor Atkinson's present series.

of Washington, St. Norbert College, and University of Wisconsin. It takes some stretch of imagination to call some of these program series a classroom service. Many of them have lasted for but a short time. It should be noted that the original service to schools was attempted in 1925 by Kansas State College as the "Rural School Program," lasting but a short time because of handicaps of equipment and inexperience.

The "Ohio School of the Air" was begun first in 1929 by the Ohio Department of Education in cooperation with Ohio State University. Under the direction of Ben Darrow it grew until 1937 when political opposition closed it down, later to be reopened with the University being the agency made responsible for its success and the State Department acting as a cooperating agency. Some of its series are being broadcast by the Mutual Broadcasting System as network features. "Michigan University of the Air," offered by the University of Michigan beginning in 1930, has been a series name that has covered broadcasts for both classroom use and adult education. The "Wisconsin School of the Air," originated by the University of Wisconsin in 1931, has received quite general recognition as being the outstanding supplementary classroom service yet developed by an American institution of higher learning.

Oregon State System of Higher Education offered the "KOAC School of the Air" from 1934 to 1939 as a service to both elementary and secondary schools—programs were directed to the classroom in 1932, two years before the "KOAC School of the Air" officially came into existence. The "KWSC School of the Air" was organized in 1934 by the State College of Washington as a service to high schools, in fact, it was first known as the "High School Hour." It is now directed to both

elementary and secondary schools. State University of Iowa initiated programs for high school use in 1934 under series title, "Within the Classroom." University of Kansas inaugurated its "School of the Air" in 1936 as a service to high schools. University of Minnesota "School of the Air," although not begun until 1938, already has established itself as one of the major attempts to create a useable service of supplementary classroom programs for elementary and high school children. Alabama College "School of the Air," organized in November, 1939, has developed art and music appreciation-participation courses for school children. University of Texas, in 1940, became one of the cooperating producing agencies in the "Texas School of the Air."

Other institutions have been active in this work but have not chosen formal names for programs directed to the classroom. University of Florida today offers music appreciation courses begun in 1930 and a speech course first offered in 1935. University of Nebraska in 1931 inaugurated a music participation program for rural children that has been developed to the present time and also a social science course for high schools that no longer is in existence. Cornell University first presented its "This Week in Nature" series in 1931, and its "Know Your Birds" beginning in 1935. Iowa State College from 1931 to the present time has offered a program on agriculture for high schools. In 1934-35 some formal series for public schools were attempted, but were dropped because the College (specializing in agricultural subjects) did not feel itself equipped to offer general classroom service. A course in occupational guidance has been offered for high schools since 1937. In 1932 Michigan State College presented a special course for Smith-Hughes high schools. A year

later this was developed into a biology program for general high school work, and has been broadcast to the present time.

In 1935 the University of Oklahoma began directing programs to high schools for classroom use. Purdue University since 1936 has cooperated with the Arsenal Technical High School of Indianapolis and the Lafayette Public Schools in preparation of programs for both secondary and elementary schools. In 1938 Louisiana State University began offering vocational guidance programs for high schools. University of North Dakota has offered a "Music Appreciation Hour" to the schools of its area. Story time programs for primary grades have been presented by St. Olaf College. Luther College presents programs that are used in school work, but it has no formal organization for this work. St. Norbert College has offered programs on safety over its two stations. Loyola University of the South, Georgia School of Technology, and one of the St. Norbert College stations (as units of Columbia Broadcasting System) broadcast the "American School of the Air" programs for use of schools in their areas.

Vocational (or educational) guidance has been one of the most frequently presented subjects over the air. It has seemed to fit well into an educational broadcasting schedule. At least fifteen of these 124 institutions have offered series over a period of time and under a variety of titles. These have been: Purdue University, Iowa State College, State University of Iowa, University of Kansas, Louisiana State College, University of Michigan, University of Minnesota, University of Nebraska, Ohio State University, University of Oklahoma, Oregon State College, South Dakota State College, State College of Washington, Marquette University, and University of Wisconsin.

Some school subjects and activities have been more popular as broadcasting subjects than have others. Among those featured in series most frequently there have been: Art, current events, English language study, geography, health, history, literature, music (both appreciation and participation), nature study, safety education, science, speech, story time for younger children, and travelogues. Others directed toward classroom use have been: Band instrument instruction, biography, calisthenics, chemistry, civics, debate instruction and topics, economics, electrical shop, engineering, etiquette, foreign languages (French, German, and Spanish), forestry, home economics, medicine, metal shop, national and international problems, opera, parliamentary procedure, poetry, political science, printing, rural electrification, Shakespeare, student activities, student symposiums, and zoology.

When programs intended for classroom use were first presented over the air, it was considered highly essential for success of the new classroom procedure to send out material in advance so that not a single "precious" moment would be lost from the broadcast. Likewise, worksheets usually had to follow the program so that the wisdom expressed over the air might be preserved in tangible form. Today many experienced users of classroom broadcasts seldom (if ever) make further preparation or follow-up of the program other than discussions that may have been brought to mind of teachers or pupils. The logic behind this method of using programs has been that radio is no novelty to the modern American child—he hears all kinds of broadcasts in his own home without the necessity of scribbling answers on mimeographed sheets. The well-prepared educational offering acts as an "emotional stimulation" to the child, adds to his store of constantly increasing

useable knowledge, and in many cases gives a welcome relief from the teacher and her sometimes monotonous classroom procedures. This study indicates that the present trend (so far as broadcasts prepared for the classroom by universities and colleges are concerned) is away from the prepared material for use prior to and after the program.

There are, however, some program series that need material for the guidance of the instructional process in connection with the use of radio programs in the classroom. The "Wisconsin School of the Air," as typical of the practices of the more definitely organized classroom services, sends out printed bulletins indicating the general nature of the coming programs. Others distribute similar material in mimeographed form. Iowa State College sells at cost a printed *Listener's Manual* for its occupational guidance series. Michigan State College prepares a pamphlet for high school students under title of *Radio School of Biology*, while the University of Michigan sends out mimeographed lists of words for use in its diction and pronunciation broadcasts.

In general it may be said that instruction via radio is more successful in its informal rather than in its formal applications.

MISCELLANEOUS CONSIDERATIONS

A radio station, no matter what its type, has always been a potential safeguard for use when emergency arises. The following are typical examples of this value. In the destructive sleet storm in the winter of 1911-12, Pennsylvania State College made good use of its transmitter in keeping in touch with the outside world. In the 1913 flood of the Ohio River, the Ohio State University experimental station was the only means of communication that the city of Columbus had with outsiders. The Dartmouth College experimental station was used effectively first in the Connecticut Valley flood in 1927, then with the hurricane in 1938. By means of timely advice over the radio, Michigan State College helped salvage damage caused by unseasonal freezing of the 1936 grape crop. When the Cornell University station had a teletype machine in its office for receiving daily produce market reports from Albany, there was in effect a conference hook-up with ten stations in New York, so located that emergency news could be flashed to them immediately. Since relinquishing the teletype machine, this same service has been made possible by use of Western Union.

Bad roads have sometimes made difficult the State College of Washington's customary practice of supplying speakers upon request for gatherings in nearby towns. KWSC now is being called into play to permit carrying the speech to the meeting via the ether route. This has been proving to be especially significant in enriching Parent-Teacher Association meetings which now

may be arranged, as suggested by the announcement at the beginning of the 1937-38 academic year, which reads:

Lecture Broadcasts to Parent-Teacher Groups. If your organization meets where a radio is available, we will broadcast a lecture to you on a topic of your own choosing. Contact us at least ten days before the meeting.

Even lesser bits of public service have not been overlooked by KWSC. A student was kept in College when his total bankroll of \$75 was returned within a few minutes after it had been lost—the recovery resulting from a broadcast. A lost dog belonging to a woman was recovered in a neighboring town. Police of the vicinity have enlisted the radio station in some spectacular instances, once in the quest for a lost boy whose body later was found in the Palouse River, and again in guiding a plane, evidently in trouble, to an emergency landing field.

Although it operates its own station in the southern part of the state, the University of Illinois in the past has offered several series of broadcasts over Chicago stations in order to reach better the northern section of the state. An interesting example of this broadcasting service in the Chicago area was reported in 1930. A mother in an isolated area, without the services of a doctor, heard a University lecture on the subject of appendicitis, became alarmed over the condition of a sick child, and rushed the little girl to a hospital just in time for an operation that saved her life.

Two unusual developments at Louisiana State University came during the 1937-38 academic year with the formation of a Radio News Bureau and a Radio Script Exchange. The first has prepared bulletins embracing

materials of an educational nature used regularly by twelve stations—nine in Louisiana and three in other states. The Script Bureau has a file of scripts written by radio students that are available to schools or other organizations wishing to present radio programs. This has served the two purposes of supplying communities with desirable scripts and giving University students incentive and opportunity for original writing.

Use of electrical transcriptions has been the most common method of developing state-wide educational services. Fourteen of the institutions being studied have taken advantage of this method. University of Arkansas covers its area this way with agricultural and home economics programs. University of Florida sends out transcriptions of its music appreciation and speech instruction broadcasts intended for use in classrooms. University of Idaho records music, drama, and talks for state-wide public relations work. Bradley Polytechnic Institute makes records to be used for alumni meetings, and also to be used for interesting prospective students in the school. State University of Iowa was an early pioneer in recording its station's programs to be studied for improvement. Louisiana State University, faced with the problem of serving a native French-speaking population, makes records in that language which are used on all stations of the Louisiana Network.

University of Nebraska, in meeting the problem of lack of cooperation of its local high-powered station, is beginning to distribute transcriptions of its programs to smaller stations throughout the state. Cornell University each week sends records containing two ten-minute talks to a minimum of six stations. North Dakota Agricultural College in 1936 began using transcriptions for its Extension Service programs. Denison University occasionally has made transcribed programs

for use throughout the state. Ohio State University has a transcribed service on agricultural subjects for use of commercial stations in both Ohio and neighboring states. South Dakota State College in 1937 also began sending transcriptions to five other stations (besides its own) both in and outside the state. University of Wisconsin, in its state-wide public forum plan, has had senators and congressmen make transcriptions while in Washington, D. C., to be broadcast over WHA in Madison.

University of Michigan undoubtedly has carried further the development of the use of electrical transcriptions than any other American educational institution. Recordings are made of student speech for purposes of self-improvement and faculty research. Also, transcriptions are made for use by University alumni clubs, to teach students in extension classes, and to keep a permanent record of the voices of emeritus professors. This institution also was perhaps the first to begin the building of a transcription library.

At least seven of these 124 universities and colleges today have short-wave transmitters that are used for a variety of purposes: University of Connecticut (that sends some programs from its campus twenty miles to the commercial transmitters in Hartford), University of Florida, University of Illinois, Michigan State College, University of Michigan, Union College, and Wittenberg College. Two have been pioneering in the international short-wave field. Cornell University has experimented with the sending of agricultural programs to other countries, but this has been stopped temporarily because of war conditions. Union College owns its own short-wave transmitter but uses the more powerful General Electric station for broadcasting its chapel exercises and certain other cultural programs. State

University of Iowa in 1932 began operation of a television station.

So far as data of this study can show, Wittenberg College was the first American educational institution to list a radio course in its college catalog. In 1896 it announced instruction in the general field of wireless communication. Others followed in due time. Departments of Electrical Engineering in Ohio State University in 1909 and in Pennsylvania State College in 1910 began offering courses in wireless telegraphy. Early instruction followed technical lines of radio communication, usually in departments of electrical engineering in the larger institutions and physics in the smaller, and sometimes in both. Following the World War, these courses increased in number.

State University of Iowa began training radio announcers in 1930, and there has been an increasing number of these 124 institutions being studied that each year have offered courses (usually in the Speech Department) in broadcasting techniques including announcing, script writing, directing, as well as the more technical aspects of the industry. A large number of courses has been offered in summer sessions especially for teachers-in-training, but the trend since the 1938 dissertation was written has been slowly but distinctly toward regular-session campus instruction. University of Michigan and University of Utah both conduct their radio classes in commercial studios.

There have been numerous other services rendered in connection with the radio development of the institutions being studied. The University of Colorado distributes lectures as presented over the air in bulletin form. Copies of talks are mimeographed for distribution by the University of Michigan when as many as fifty requests for them have been received. University

of Cincinnati has sent mimeographed copies of its broadcasts for the postage involved, while the University of California sells its "University Explorer" series material in mimeographed form for ten cents a copy as a research service. The University of Michigan, as part of its instructional work, has made evaluations of all network programs heard in the state. Also, listings of the "better programs" are made as a service for the public schools of Michigan. John Brown University and the University of Michigan have begun special libraries of radio books, and the latter has been building a library of transcriptions. Ohio State University has a Radio Division in its Bureau of Educational Research.

The Institute for Education by Radio has been an annual meeting held on the campus of Ohio State University since 1930. Created through joint sponsorship of the Payne Fund, Ohio Department of Education, and Ohio State University, it has served as a clearing house for an exchange of ideas among educators and commercial broadcasters. An annual exhibition of recordings of American radio programs was begun in 1937. The officers of the Institute are: Dr. W. W. Charters, Director, and Dr. I. Keith Tyler, Executive Secretary. It is interesting to note a little known fact that this annual traditional and ever-growing "big radio meeting of the year" was born in the early work of Ben Darrow and Cline M. Koon. The fourth and final recommendation of the Committee on Future Plans and Policies as adopted by the Ohio School of the Air Conference held November 22-23, 1929, reads as follows:

We further suggest that a permanent organization be formed to carry on further work along the lines of what has been done here in this conference, and thereby strengthen the

relations between the broadcasters and the receivers to the end that the Ohio School of the Air may increase its usefulness to the schools of the state.¹⁶

* * *

The foregoing data have been culled and organized from the histories of radio developments in the 124 institutions of higher learning that have held standard broadcast license within the first two decades of broadcasting. This study has attempted to give all sides of the picture so that the reader may decide for himself what has had value and what has been futile. Is it a worth while venture for a college to operate its own transmitter? Does the competitive selling of time on the air mix well with the traditions of formal education? Is it less expensive and more effective for a university to make use of commercial facilities rather than to attempt operation of its own station? The facts have been presented in this volume—the individual university and college must decide these matters for itself.

¹⁶ *Report of the Ohio School of the Air Conference* (Columbus: State Department of Education, 1929), pp. 52-3.

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